

**Graceline Regala Williams – “Racel”
Research Scientist II
Digital Building Laboratory, College of Architecture**

EDUCATIONAL BACKGROUND:

Master of Science	Anticipated 2014	Georgia Institute of Technology	Human-Computer Interaction
Master of Architecture	2007	Georgia Institute of Technology	Architecture
Bachelor of Science	2003	University of Florida	Marketing

EMPLOYMENT HISTORY:

Research Scientist II (Recent Promotion from RSI)	College of Architecture, Georgia Institute of Technology	2007-Present
Software Development/Conceptual Design Intern	Information Modeling and Platform Products Group, Building and Collaboration, Autodesk	Summer 2013
Adjunct Faculty	Westwood College	2011
Graduate Research Assistant	College of Architecture, Georgia Institute of Technology	2005-2007
Architecture Intern	Thompson, Ventulett, Stainback & Associates (TVSA), Atlanta, GA	2005-2006

CURRENT FIELDS OF INTEREST:

3D Geometry Visualization, Manipulation, and Optimization Techniques
Campus Mapping and Simulation
Building Information Modeling and Augmented Reality
Tangible, Embodied Interaction for Design and Construction

QUALIFICATION STATEMENT:

After completing a Master of Architecture in 2007 at Georgia Tech, I have been working as a Research Scientist in the College of Architecture. Over the past few years, I have been building my technical expertise in the domain of 3D visualization and design technologies. Additionally, I have pursued other activities in order to better prepare myself for a senior research position in the future. These activities include recruiting and mentoring students, teaching, taking on a supervisor/managerial role, maintaining client relationships, and obtaining/managing funded research projects. The following describes these activities within each category.

RESEARCH:

My research innovates current technologies for application in the design and construction fields with a specialization in 3D visualization and simulation. In the past five years, I have successfully managed and completed several key projects for various clients, obtained funding from a diverse base, established research connections to other departments, and worked collaboratively with other researchers on multi-disciplinary projects.

I have worked on several key projects for a diverse base of sponsors. When I first started working as a Research Scientist I at Georgia Tech, my main role in research was that of contributor (3D Modeler and Texture Artist). After a few months, my role quickly moved to principal investigator/project lead. One of the projects where I was co-principal investigator was the Georgia Veterans Memorial which brought in \$141, 744. In this project, I led a group of 6 students and managed timelines and budgets to produce animations and interactive digital tools to aid Rockdale County in their pursuit of obtaining additional funding sources. I have also been the project lead on the Malqata Project where I collaborated with Emory's Carlos Museum Curator and Archeologist, Peter Lacovara, on creating a real-time reconstruction of Malqata, an Egyptian habitation site for education and collaborative purposes. As one of my lab's major sponsors, Georgia Tech Division of Administration and Finance, I have played a key role and delivered several key projects for them including the Clough Undergraduate Learning Center animation, Tech Square II animation, and North Avenue Corridor animation, where I was project lead, which aided the Institute in raising millions of dollars for capital investment. The latest project that I am leading for this sponsor is the new Georgia Tech Campus Map. Leading and managing a team of three students, I have been working with multiple groups on campus (Capital Planning and Space Management, Parking and Transportation, Office of Information Technology, the Research Network Operations Center, and Institute Communications) to develop and implement this new resource that will become the official campus map in 2013.

Currently, I am working on several projects that I received funding for that involves multidisciplinary teams and approaches. These projects allow me to extend the work being done in the Imagine Lab/Spatial Innovation Group beyond our group's expertise and showcase to other researchers across campus and other universities the capabilities of our lab and how our work is applicable to many disciplines. I have been presenting this work at several symposium and events. One project I am working on deals with Building Information Modeling and Augmented Reality being utilized in Architecture, Engineering, and Construction (AEC). For the past year, I have been working with researchers from the schools of Building Construction and Psychology to define user-centered methods and workflows in order to develop augmented reality tools for AEC. Our work has been recently published in the Elsevier Journal of Automation in Construction and will soon be published in the Emerald Journal of Facilities. In addition, a news article has been published in Engineering News Record on this work. Our team has given several presentations to industry and academia across the nation. We have recently received a seed grant to continue pursuing our efforts, and have recently submitted a multi-year National Science

Foundation proposal. Another project deals with developing 3D visual databases for driving simulators. Working with other researchers and students in Psychology and Civil Engineering, we have recently received a seed grant to continue our work. Next semester, we will attempt to write another proposal to extend the project into the future. A third project deals with creating a mobile application for managers to use on-site during pavement rehabilitation. Funded by the Federal Highway Administration and Georgia Department of Transportation, I have been working with researchers in the School of Building Construction to develop a mobile application for on-site constructability analysis of pavement rehabilitation.

Lastly, one of my responsibilities to the lab is to work on projects that deal with keeping an up-to-date repository of 3D models of all campus infrastructures. The main goal of these projects is to ensure that Georgia Tech researchers, staff, and faculty have a resource they can easily access for fundraising, marketing, or research needs. I have helped maintain these models by generating the 3D content, but by also helping establishing content creation methods and organization structures. I have had several significant contributions to this project including creating a database of campus infrastructure at the detail level and developing several real-time game engine simulations of a virtual 3D Georgia Tech that users to communicate and interact digitally. I have led teams of students (up to 8) in running live demonstrations at events in GVU, the Library, and Student Center.

ADMINISTRATIVE:

Over the past five years, I have been recruiting, mentoring, and managing student teams (undergraduate, masters, and PhD from different disciplines) of up to 8 students at a time for various research efforts. In preparation for more senior research roles, I have developed educational training seminars for these students, created schedules and deadlines, and acted as a mentor/guide to manage these student's efforts. I am currently working with 6 students on various projects (Campus Map, Driving Simulator, and Augmented Reality). I have also had to deal with Office of Human Resources and the College of Architecture Finance Office in managing budgets of various projects that I have been principal investigator on.

OUTREACH/COMMUNITY INVOLVEMENT:

In numerous ways, I have been involved in several research-related, outreach, and marketing projects at both the Institute and College of Architecture community contributing my expertise in visualization and technology.

I have played key roles in several collaborative projects that demonstrate the intersection of arts and technology at Georgia Tech. These projects resulted in installations at Georgia Tech sponsored events. One project, collaboration with researchers at the Center for Music Technology and Digital Fabrication Lab, was an interactive, sensor-based audio/visual installation for the Centennial Celebration at the College of Architecture where I worked on creating the visual interface/output of the piece. Another project was done as an outreach project with one of Georgia Tech's artist-in-residence, OpenEnded Group and other researchers across the campus. This project resulted in an audio/visual interactive experience that allowed patrons to draw collaboratively with a computer where I helped provide 3D mockups, design, and fabricate the installation. Lastly, I am currently working for the Office of the Provost with the Office of the Arts and Council of the Arts in designing and developing a the Arts @ Tech website which will showcase the many arts-related activities at Georgia Tech as part of the 25-year vision the GT President.

Last year, I also took on a secondary role of digital communications manager for the college where I helped design, develop, and implement 5 new College of Architecture websites (College of Architecture, School of Architecture, School of Music, School of Industrial Design, School of Building Construction, School of City and Regional Planning), organized live streaming events, created college event microsites, and developed automated systems for online marketing.

For the past five years, I have also helped out the School of Architecture by serving on several jury panels for studio critiques and participating in recruitment events for minorities. I have also helped mentor visiting international students who come for about 1 month to learn more about 3D visualization and design technologies. I have also provided training about how to efficiently and effectively use design technologies in the form of seminars to the College of Architecture community and high school students participating in the CEISMC Summer Program.

FUTURE:

I continue to build my expertise in the area of design technologies and have developed an interest in user-centered interface design. In order to facilitate my growth in this area, I am currently pursuing a Master of Science Degree in Human Computer Interaction from Georgia Tech's School of Interactive Computing. This multi-disciplinary program will allow me to hone my research and technical skills to strengthen my work in the future. I plan on continuing to expand my knowledge in the fields of augmented reality and tangible, embodied interaction in order to devise solutions for the design and construction field. It is my aim to continue producing peer-reviewed papers, create new design tools for AEC, and gaining more management experience in order to prepare for a senior research role.

I. MASTERY OF A COMPLEX FIELD

A. Published Journal Papers (refereed)

1. Irizarry, J., Gheisari, M., Williams, G., and Walker, B. N., (2012) "InfoSPOT: A Mobile Augmented Reality Method for Accessing Building Information through a Situation Awareness Approach," Elsevier Journal of Automation in Construction (In press, Available online 5 October 2012)
Contributions: Research Methodologies, Prototype Implementation, Writing and Editing Paper, Responsible for Technical/Technology Portion of work.
2. Irizarry, J., Gheisari, M., Roper, K. O., and Williams, G., (2012) "Ambient Intelligence Environments for Accessing Building Information: A Healthcare Facility Management Scenario," Emerald Journal of Facilities (In press)
Contributions: Research Methodologies and Responsible for Technical/Technology Section of Paper.

B. Submitted Journal Papers (refereed)

1. Williams, G., Gheisari, M., Chen, P., and Irizarry, J., (2013) "BIM2MAR: Efficient BIM Translation to Mobile Augmented Reality (MAR) Applications", Special Issue of ASCE Journal of Management in Engineering on ICT (Submitted in April 2013)

C. Peer-reviewed Posters

1. Gheisari, M., Williams, G., and Irizarry, J., (2013) "ARWindow: Integrating Building Information Modeling (BIM) & mobile Augmented Reality (AR) to Access Facility Management-related Information," Associated Schools of Construction (ASC) 49th Annual International Conference, California Polytechnic State University (Cal Poly), San Luis Obispo CA, April 10 - 13, 2013
2. Gheisari, M., Williams, G., Irizarry, J., and Walker, B. N., (2013) "ARWindow: Accessing Building Information through Mobile Augmented Reality," Georgia Tech Research and Innovation Conference (GTRIC), Atlanta, GA, Feb 2013

D. Conference Presentations without Proceedings

1. Williams, G., Gheisari, M., "Delivery Mechanisms: How can mixed-reality technologies be used to enhance MOOC learning and on-campus courses?" Learning From MOOCs Showcase, May 8, 2013.
2. Williams, G., Gheisari, M., "Tangible Interaction: 3D printing and Interactive BIM Models," Digital Building Lab Fourth Annual Symposium, May 6-7, 2013.
3. Irizarry, J., Williams, G., Gheisari, M., "Use of AR in Facilities Management," Digital Building Lab Fourth Annual Symposium, May 6-7, 2013.
4. Williams, G., Walker, B., Rezaee, R., Loomis, C., "Drive Georgia Tech: Creating Custom 3D Environments for the NADS MiniSim," GVU Brownbag, April 11, 2012.
5. Gonzales, J., Munoz, D., Pruett, A., Williams, G., "Knee Naturalistic Exercise Evaluator An Everyday Wearable Goniometer for Monitoring Physical Therapy Adherence," NASA Wearable Technology Symposium, April 22, 2013.
6. Williams, G., "Drive Georgia Tech: Creating a Custom NADS MiniSim Simulation Starting from Standard 3D Modeling Software," Center for Advanced Transportation Systems Simulation - University Transportation Centers Symposium, February 14-15, 2013.
7. Williams, G., "The New Georgia Tech Campus Map," Georgia Tech Communications Brownbag, February 14, 2012.
8. Williams, G., Sanders, M., "A Newer Campus Map For Georgia Tech," GIS-Community of Interest Monthly Meeting, September 17, 2012.
9. Williams, G., "Georgia Tech Campus Driving Simulation and Research," GVU Brownbag, August 23, 2012.
10. Williams, G., Irizarry, J., Gheisari, M., "Navigation in Virtual Augmented Space", Digital Building Lab Third Annual Symposium, May 15-16, 2012.
11. Williams, G., Irizarry, J., Gheisari, M., "Augmented Reality and AECO", Skanska Annual All Hands Meeting, May 2, 2012.

12. Williams, G., Swarts, M., Shaw, J., "New Technologies Coming Into AECO," Digital Building Lab Second Annual Symposium, May 25-26, 2011.
13. Lesniewski, T., Swarts, M., & Williams, G., "Serious Games in Architecture," College of Architecture Research Forum, Georgia Institute of Technology, October 30, 2008.

D. Key Delivered Products

1. **Project:** 3D Campus Model Maintenance (Ongoing, 2007-Present)
Deliverable: Maintain up-to-date 3D Low- and Medium- Campus Models for Marketing/Fundraising Purposes. Provide Renderings and Animations for the Institute as needed.
Client: Georgia Tech Division of Administration and Finance
Role: Project Leader, 3D Modeler & Texture Artist, Animator, Video Editor, Lab Coordination, Mentor
Impact: Used to help raise millions of dollars for funding of new infrastructure projects including the new Clough Undergraduate Learning Center and North Avenue Corridor Projects. Animations and Renderings that are produced are currently being used by Capital Planning Space Management for presentations and meetings.
2. **Project:** Georgia Tech Campus Map (2011-Present)
Deliverable: Replace the current Web-based Georgia Tech Campus Map with new Interactive, 3D Mobile-Enabled Version
Client: Georgia Tech Division of Administration and Finance
Role: Project Lead, Student Manager/Coordinator, Client Relations, Data Acquisition, Coder, Database Infrastructure, 3D Model generation, Texture Artist, User-Testing, Usability Expert.
Impact: Currently in production. Will become the official campus map when it officially launches in 2013.
3. **Project:** 3D Visualization for Driving Simulator (2012-Present)
Client: GVVU Seed Grant Program
Deliverable: Create a 3D Visual Database for the Campus Driving Simulator
Role: Project Lead, Student Manager/Coordinator, Data Acquisition, Coder
Impact: Currently in production. Received seed funding from GVVU to continue project and will attempt to get NSF funding for later phases.
4. **Project:** Arts@Tech Website Design and Development (2012-Present)
Client: Office of the Provost
Deliverable: For the Arts@Tech Campus-Wide Initiative, Create a compelling website showcasing all the arts activities, research, and education happening at Tech.
Role: Project Lead, Designer, Developer
Impact: Currently in production. Will launch in October 2012 as an Institute-Level website.
5. **Project:** North Avenue Corridor Animation Project (2010-2011)
Deliverable: Create 3D video animation for fundraising purposes of the new North Avenue Corridor Project.

- Client:** Georgia Tech Division of Administration and Finance
Role: Project Lead, Student Manager/Coordinator, Client Relations, Data Acquisition, 3D Model generation, Texture Artist, Animator, Video Editor
Impact: Used to raise awareness and gain public acceptance of the project. Presented at President Peterson's 2011 Annual Address.
6. **Project:** Peachtree Corridor 3D Game Public Release (2010)
Deliverable: Provide the general public with access to the Peachtree Corridor 3D Game Environment to allow them to experience the proposed changes to Peachtree Street in a real-time simulation.
Client: Peachtree Corridor Task Force
Role: Data Acquisition, Press Coordinator, Package Assembly and Delivery
 7. **Project:** Clough Undergraduate Learning Center Animation (2008-2009)
Deliverable: Create 3D video animation for fundraising purposes of the new Clough Undergraduate Learning Center. The animation should showcase the internal programming of CULC.
Client: Georgia Tech Division of Administration and Finance
Role: Data Acquisition, 3D Model generation, Animator, Video Editor
Impact: Used to help raise millions of dollars for funding of new infrastructure projects including the new Clough Undergraduate Learning Center.
 8. **Project:** Tech Square Phase II Animation (2008)
Deliverable: Create 3D video animation for fundraising purposes of the new Clough Undergraduate Learning Center. The animation should showcase the internal programming of CULC.
Client: Georgia Tech Division of Administration and Finance
Role: Graduate Research Assistant Coordinator, 3D Modeler & Texture Artist
 9. **Project:** Georgia Tech 3D Campus Infrastructure Detail Database (2007-2008)
Deliverable: Create a repository of all campus 3D campus infrastructure details including sidewalk furniture, lighting, and signage.
Client: Georgia Tech Division of Administration and Finance
Role: Data Architect, Project Leader, 3D Modeler & Texture Artist
 10. **Project:** Malqata (Egypt) 3D Simulation in Google Earth (2007-2008)
Deliverable: 3D Model Recreation of Malqata (Egyptian Ruins) for Educational Purposes
Client: Carlos Museum/Peter Lacovara
Role: Client Coordinator, Data Acquisition, 3D Modeler & Texture Artist
Impact: Images and illustrations from recreation were requested by the Grimaldi Forum for their catalogue.
 11. **Project:** Golf Course Animation (2007)
Deliverable: 3D Animation for Marketing/Fundraising Purposes.
Client: Michael Hahn
Role: 3D Modeler & Texture Artist

E. Curriculum and/or Short Course Development

1. **Imagine Lab/Spatial Innovation Group Graduate Research Assistant Tutorials**

Developed and implemented training program for all GRAs. Weekly tutorials/seminars were given to help student's develop knowledge, skills, and expertise in new technology affecting the AEC Industry.

Topics included:

- Optimized Low Poly Modeling
- Importing Low Poly 3D Models Into the Unreal Game Engine
- How to create Medium Poly 3D Terrain from Aerial Photography and LIDAR
- Aligning and Rendering 3D Objects with 2D Background Images
- How to Create an Animated GIF
- Character Animations in After Effects
- Object-Oriented Programming Basics
- Actionscript 3 and Flash: Building Your First Class

II. PROJECT LEADERSHIP AND SUPERVISION

A. Performance of Funded Research

1. **Title:** Exploring MOOCs (Massive Open Online Courses) Delivery Mechanisms Considering Different Mobile Technology Platforms (handheld devices, tangibles, and wearables)
Sponsor: Center for Enhancement of Teaching and Learning (CETL), Center for 21st Century Universities (C21U), and Office of Provost at Georgia Tech
P.I.: Graceline Williams
Candidate's Role: Principal Investigator
Did Candidate have Budgetary Authority? Yes
Amount Funded for Entire Project: \$2,500
Persons Supervised in Portion of Work Led by Candidate: 1 (funded)
Period of Performance: 6 months (current project)
Contributions: 50%. Managing team of students, faculty, and staff. Establishing Methodologies and Project Plan.
2. **Title:** BIM2MAR: Exchange Method and Workflow for Efficient BIM Translation to Mobile Augmented Reality (MAR) Applications in AECO Practices
Sponsor: Digital Building Laboratory
P.I.: Javier Irizarry
Candidate's Role: Co-Investigator
Did Candidate have Budgetary Authority? No
Amount Funded for Entire Project: \$41,000
Persons Supervised in Portion of Work Led by the Candidate: 6
Period of Performance: 12 months (current project)
Contributions: 25%. Generating Prototypes. Establishing Methodologies and Workflows. Managing Student Assistant. Writing Journal Papers.
3. **Title:** Georgia Tech Campus Driving Simulation and Research
Sponsor: GVU
P.I.: Graceline Williams and Bruce Walker
Candidate's Role: Principal Investigator

Did Candidate have Budgetary Authority? Yes
Amount Funded for Entire Project: PhD Student Funding + \$2000
Equipment/Materials
Amount Funded for Entire Project: PhD Student Funding + \$2000
Persons Supervised in Portion of Work Led by the Candidate: 2
Period of Performance: 12 months (current project)
Contributions: 25%. Establishing Methodologies and Workflows. Managing Student Assistant. Writing Journal Papers.

- Title:** Constructability Analysis for Pavement Rehabilitation Review
Sponsor: Federal Highway Administration (FHWA) and the Georgia Department of Transportation (GDOT)
P.I.: Javier Irizarry and Daniel Castro
Candidate's Role: Contributor
Did Candidate have Budgetary Authority? No
Amount Funded for Entire Project: \$352,657
Period of Performance: 24 months (current project)
Contributions: 5%. Designing and developing a mobile application for Pavement Infrastructure projects.

- Title:** Georgia Veterans Memorial Park Visualization & Simulation
Contract Number: 114861
Sponsor: Georgia Veterans Memorial Park/Rockdale County, GA
P.I.: Graceline Williams and Jonathan Shaw
Candidate's Role: Co-Principal Investigator
Did Candidate have Budgetary Authority? Yes
Amount Funded in Task for which Candidate was Responsible: \$141,744
Amount Funded for Entire Project: \$141,744
Persons Supervised in Portion of Work Led by the Candidate: 6 graduate students.
Period of Performance: 6 months
Contributions: 20%. I was the project leader and student manager/coordinator. I devised timelines and budgets for the entire team. I gave presentations to the review board and maintained client relations. I actively created content for the deliverables (3D Models/Textures, Animations, and Interactive Websites).

B. Additional Supervisory Responsibilities

- Imagine Lab/Spatial Innovation Group Project Leader.** Since Fall 2008, I typically recruit and work with 3-8 students on lab research projects. I train and mentor them in 3D Visualization and other Design-Related Technologies. I managed their daily assignments and keep track of their progress to ensure we are meeting deadlines. These students are mainly graduate students pursuing degrees in Architecture or design-related fields. Students are listed in the next section.

C. Individual Student Guidance/Development

- Graduate Research Assistants trained.**

I worked with numerous graduate students (PhD and Masters) on work related to the Imagine Lab/Spatial Innovation Group's initiatives. I recruit, train, and mentor these students to help them gain knowledge and expertise in emerging design technologies, mainly dealing with 3D technologies. I manage their daily assignments and schedule project deadlines to ensure that we meet our semester and annual goals. These students vary in background, but are interested in developing their digital technology skills and expertise.

Current Students:

Pedro Soza, PhD Design Cognition College of Architecture
Mehdi Nourbakhsh, PhD Building Construction College of Architecture
Roya Rezaee, PhD High Performance Building College of Architecture
Cole Loomis, Master of Architecture, 2012
Ray Chen, Master of Science Digital Media
Nicholas Coffee, Master of Architecture, 2014
Candace Seda, Bachelor of Science Architecture, 2015

Past Students:

Aaron Coffman, Master of Architecture, 2012
Almir Divanovic, Master of Architecture, 2012
Daniel Dixon, Master of Architecture, 2012
Emilio Hernandez, Master of Architecture, 2012
Alexa Kaminsky, Bachelor of Science Computational Media, 2012
Michael Bennett, Master of Architecture, 2011
Dale Kim, Master of Industrial Design, 2011
Joe McCoy, Master of Architecture, 2010
Mark Moreno, Master of Architecture, 2010
You-Jong Chung, Master of Architecture, 2009
Tina Lee, Master of Industrial Design, 2009
Colleen Duggan, Master of Architecture, 2008
Tanika Chatterjee, Master of Architecture, 2008

III. TECHNICAL CONTRIBUTIONS AND INNOVATION

A. Research Reports

1. Lesniewski, T., Shaw, J., Swarts, M., Williams, G. "Imagine Lab Whitepaper: COA Technology Requirements," Whitepaper, College of Architecture, March 26, 2010. 25% Contribution.
This report was to aid in helping our college better understand the technological needs of our students. This paper was meant to lay the foundation for computing in design education.

IV. SPONSORED PROGRAM DEVELOPMENT

A. Research Proposals

1. **Title:** ARWindow: Accessing Building Information through Mobile Augmented Reality

Sponsor: National Science Foundation
Your Role as listed in the proposal: Co-Investigator
Amount Requested: \$357,488
Date Submitted: October 1, 2012
Result: Pending.
Contribution to Proposal: Worked with other team members from Building Construction and Psychology to generate proposal topic, research and write proposal.

2. **Title:** Georgia Tech Campus Driving Simulation and Research
Sponsor: GVU
Your Role as listed in the proposal: Co- Principal Investigator
Amount Requested: PhD Student Funding + \$2000 Equipment/Material
Date Submitted: June 28, 2012
Result: Funded.
Contribution to Proposal: Worked with Co-Pi on generating topic and writing proposal.
3. **Title:** InfoSPOT: Low-Cost, Mobile AR Approaches for Accessing Building Information for Situation Awareness Enhancement
Sponsor: GVU
Your Role as listed in the proposal: Co-Investigator
Amount Requested: \$38,232
Date Submitted: August 8, 2011
Result: Not Funded.
Contribution to Proposal: Worked with other team members from Building Construction and Psychology to generate proposal topic and research and write proposal.
4. **Title:** AECO +AR: A Low-Cost, Mobile Toolkit Solution for AR Applications in AECO
Sponsor: Digital Building Laboratory
Your Role as listed in the proposal: Principal Investigator
Amount Requested: \$49,749
Date Submitted: July 13, 2011
Result: Not Funded.
Contribution to Proposal: Worked with other team members from Building Construction and Psychology to generate proposal topic, research and write proposal.
5. **Title:** Indoor Position Tracking for AECO Augmented Reality Applications
Sponsor: DPR Construction Inc.
Your Role as listed in the proposal: Principal Investigator
Amount Requested: \$35,000
Date Submitted: June 21, 2011
Result: Not Funded.
Contribution to Proposal: Generated proposal topic, researched and wrote proposal, and discussed project with DPR members.
6. **Title:** InfoSPOT: Low-Cost, Mobile AR Approaches for Accessing Building Information for Situation Awareness Enhancement
Sponsor: GVU
Your Role as listed in the proposal: Co-Investigator

Amount Requested: \$38,232

Date Submitted: August 8, 2011

Result: Not Funded.

Contribution to Proposal: Worked with other team members from Building Construction and Psychology to generate proposal topic and research and write proposal.

7. **Title:** Georgia Veterans Memorial Park Visualization & Simulation
Sponsor: Georgia Veterans Memorial Park/Rockdale County, GA
Your Role as listed in the proposal: Co-Principal Investigator
Amount Requested: \$141,744
Date Submitted: May 1, 2010
Result: Funded.
Contribution to Proposal: Worked with Co-PI to prepare proposal, timeline, and budget.
8. **Title:** Virtual Movement: Atlanta Civil Rights
Sponsor: John S. and James L. Knight Foundation
Your Role as listed in the proposal: Co-Investigator
Amount Requested: \$45,000
Date Submitted: February 5, 2010
Result: Not Funded.
Contribution to Proposal: Generated proposal topic, researched and wrote proposal.
9. **Title:** Community Assist: Location-Based Journalism using 3D Game Engine Technology
Sponsor: John S. and James L. Knight Foundation
Your Role as listed in the proposal: Principal Investigator
Amount Requested: \$250,000
Date Submitted: February 5, 2010
Result: Not Funded.
Contribution to Proposal: Generated proposal topic, researched and wrote proposal.
10. **Title:** Community Assist: Location-Based Journalism using 3D Game Engine Technology
Sponsor: John S. and James L. Knight Foundation
Your Role as listed in the proposal: Principal Investigator
Amount Requested: \$1,500,000
Date Submitted: October 30, 2008
Result: Not Funded.
Contribution to Proposal: Generated proposal topic, researched and wrote proposal.
11. **Title:** Validating & Deducing Theories from Archeological Findings through Collaborative Virtual Environments: Virtual Malqata - Connecting Geographically-Disparate Users through a Common Communication Portal
Sponsor: National Endowment of the Humanities
Your Role as listed in the proposal: Co-Investigator
Amount Requested: Research Fellowship for 1 Year – Monthly Stipend
Date Submitted: May 5, 2009
Result: Not Funded.
Contribution to Proposal: Generated proposal topic, researched and wrote proposal.

- 12. Title:** Fit Kids Study Game
Sponsor: Health Systems Institute
Your Role as listed in the proposal: Co-Investigator
Amount Requested: \$50,000
Date Submitted: July 21, 2008
Result: Not Funded.
Contribution to Proposal: Coordinated and collaborated with members of Children’s Healthcare of Atlanta on project proposal and delivery.
- 13. Title:** Focused Research Program in Database Connectivity Mechanisms for Real-Time Visualization Systems (or “Game Engines”)
Sponsor: Office of the President, Georgia Institute of Technology
Your Role as listed in the proposal: Co-Investigator, Coordinator
Amount Requested: \$30,000
Date Submitted: May 23, 2008
Result: Not Funded.
Contribution to Proposal: Generated proposal topic, researched and wrote proposal, collaborated with other team members from Georgia Tech’s Emergency Preparedness and Environmental Health and Safety Offices, generated budget and timeline.
- 14. Title:** Commute Assist: Curbing Traffic Congestion through the use of 3D Game Engine Technology within a News Media Context
Sponsor: John S. and James L. Knight Foundation
Your Role as listed in the proposal: Principal Investigator
Amount Requested: \$2,000,000
Date Submitted: October 12, 2007
Result: Proposal made it to round of 64; 17 chosen as winners, Not Funded
Contribution to Proposal: Generated proposal topic, researched and wrote proposal, generated budget and timeline

V. OUTREACH AND SERVICE

A. Professional Activities

1. Board Member, Verdant Elements, Inc (Plan It Green, Inc), 2010-Present.

B. Outside Professional Activities/Consulting

1. **Office of the Provost, Arts@Tech Web Designer and Developer, 2012-Present.**
 Currently designing and developing a web portal for all arts-related activity at Georgia Tech aligning with the President’s 25 year vision for Georgia Tech’s future.
 - Collaborating with Institute Communications, Office of the Arts, Council for the Arts, and campus communicators on developing a website that meets institute guidelines and departmental requirements.
 - Managing relations between different departments
2. **College of Architecture Georgia Tech, Digital Communications Manager, 2011-2012.**

Worked as Digital Communications Manager in the College of Architecture Communications Office.

- Provided usability testing on previous website, and aided in design of new websites.
- Developed and implemented 5 new College of Architecture Websites: College of Architecture, School of Architecture, School of Music, School of Industrial Design, School of Building Construction, and School of City and Regional Planning.
- Developed 2 Event Microsites, *Imagining* and *Margaret Guthman Musical Instrument Competition*.
- Managed, coordinated and Executed LiveStream Event of the Guthman Competition.
- Managed an undergraduate research assistant.
- Developed Automation of Marketing/Communications Channels E-NEWS.

C. Special Activities

1. **Georgia Tech 3D Campus Model for Public Use (2007-Present)**
Aid students, faculty, staff, alumni, and friends of the University to gain access to the 3D models produced in the Imagine Lab/Spatial Innovation Group.
2. **Georgia Tech Artist-In-Residence Collaborative Project (2011-2012)**
Working with GT Artist-In-Residence, OpenEnded Group, and other GT Researchers designed and fabricated an interactive audio/visual installation that allows patrons to collaboratively draw with a computer, Drawn Together.
3. **Digital Building Lab Web Development (2011-2012)**
Designed, Executed, and Managed DBL Recruitment Material and Newsletter Template. Updated DBL Website.
4. **Precast Concrete Institute Website (2011-2012)**
Designed and developed interactive website for PCI BIM Members.
5. **American Concrete Institute Homepage (2011)**
Designed and developed temporary homepage for ACI Website.
6. **College of Architecture Juror (2009, 2010, 2012)**
Served as a review juror for undergraduate Architecture studios.
7. **Experiments In Dense Living EBook (2011)**
Assisted a School of Architecture Professor, Frances Hsu, in creating an interactive e-book of her classes semester work.
8. **Library 3D Campus Demos (2010)**
For several months, I led a team of students to provide weekly demonstrations of the Imagine Lab's 3D Real-time Georgia Tech Campus where users could visit and play in a virtual Georgia Tech environment at the GT Main Library.
9. **Student Center 3D Campus Demo (2010)**

I led a team of students to provide a demonstration of the Imagine Lab's 3D Real-time Georgia Tech Campus where users could visit and play in a virtual Georgia Tech environment. The demo took place in the Student Center Commons Stage.

10. **GVU Demo Days** (2008, 2009, 2010)
Coordinated and presented demos of Imagine Lab/Spatial Innovation group work to potential sponsors, alumni, and students.
11. **University of Pisa Visiting Students** (2009, 2010)
Supervised and trained students from Pisa University who spent 1 month internship at the Imagine Lab on optimized 3D content creation and game engine content integration.
12. **College of Architecture Open House** (2007, 2008, 2009)
Coordinated and presented demos of Imagine Lab/Spatial Innovation group work to potential sponsors, alumni, and students.
13. **Network Rendering Seminars** (2009)
Collaborated with other Imagine Lab researchers on seminars that addressed issues in 3DSMax regarding rendering, settings, using a network, and making efficient/optimized models. Presented seminar to Master of Architecture students.
14. **GIFT Program – CEISMC High School Outreach** (2009)
Conducted Instructional Classes to teach students basics of working with 3D Modeling Software.
15. **Georgia Tech College of Architecture Centennial Gala Installation** (Spring 2007)
Created, designed, and implemented an interactive sensor-based installation incorporating audio, digital projection, and tangibles in the College of Architecture West's atrium. Worked with researchers and PhD students from the Georgia Tech's Center for Music Technology and Digital Fabrication Lab. Role: Digital Video and Projection Specialist, Coder, and Designer.
16. **College of Architecture Room Locator** (Spring 2008)
Created an interactive flash application for way finding and to aid visitors in finding faculty/staff offices. Used in the Alumni Open House Demos.
17. **Georgia Tech Emergency Operations Center Open House** (May 2008)
Prepared demos to show local emergency preparedness officials, first responders, and high-level Georgia Tech administrators the capabilities of 3D game engines.
18. **Georgia Tech's Girls Night Out: College of Architecture Tour** (June 2008)
Mentored prospective undergraduate female high school students on the benefits of coming to Georgia Tech.
19. **Imagine Lab Website** – (2007-2008)
Collaborated with webmaster, Joanie Chembars, to design and implement a new Imagine Lab Website for Marketing, Fundraising, and Informational Purposes. Acquired, assembled, and formatted all resources required including videos, photos, text, and images.

20. **Imagine Lab Digital Holiday Greeting Card** (2007, 2008, 2009)

Designed and Implemented holiday greeting for past sponsors, donors, and alumni. Coordinated the delivery of all greetings. Greetings consisted of animation and interactive interfaces.

VI. OTHER PROFESSIONAL RECOGNITION

A. In The News

1. Engineering News-Record, (2012) “[Augmented Reality for Facilities Management Leaping Into Use](#),” ENR.com, Apr 4, 2012.

VII. PROFESSIONAL DEVELOPMENT

A. Educational Experience

1. Currently pursuing a Master of Science in Human Computer Interaction at Georgia Tech to build skills in understanding, creating, and implementing computer interfaces from a user-centered perspective in order to increase the potential of my work.

B. Teaching Experience

1. Developed and taught a class about 3D Modeling basics to Undergraduate Students at a local college, Westwood College.

C. Conferences Attended

1. Awarded Scholarship (Fees, Travel, Accommodations) to the ACM Interactive Tabletops and Surfaces 2012 Conference (November 11-14, 2012)
2. Attended [FutureMedia Conference](#) on creating an open ecosystem for developing media of the future (October 15, 2009)
3. Attended [Living Game Worlds IV Conference – Interplay: Multiplayer Games and Virtual Worlds](#) (December 1-2, 2008)
4. Attended [Adopting Building Information Modeling and Integrated Practice Symposium](#) (March 12, 2008)
5. Attended the [3G: Journalism Symposium](#) on journalism and computer innovation (Feb 22-23, 2008)