

CAITLYN CAGGIA

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EDUCATION

Georgia Institute of Technology, Atlanta, Georgia

M.S. in Electrical and Computer Engineering, Concentration in Electromagnetics

Class of 2019

B.S. in Electrical Engineering, BS/MS Accelerated Program, Highest Honors

Class of 2018

SKILLS

Programming Languages: MATLAB, Python, C/C++, VHDL | Windows, macOS, Linux (Ubuntu, CLI)

Modeling Software: Cameo, Rhapsody, ModelCenter, Solidworks, PowerBI, Tableau, AFSIM, AutoCAD

Collaboration Tools: Rally, Jira, Git, Cameo Teamwork Cloud, Phoenix Integration Analysis Server

Certificates: Model Based Systems Engineering (California Institute of Technology, March 2020)

WORK EXPERIENCE

Northrop Grumman Corporation

May 2017 – present

Civil and Health Business Unit, Defense Systems, Atlanta, Georgia

June 2020 – present

Solutions Architect, Future Technical Leaders rotational program

- Architect technical solutions for secure cloud-based AI/ML capture and proposals in civil and health domains
- Lead developer for automated sector-level financial forecasting dashboards using Python, Alteryx, and Power BI
- Present analytics solutions and AI capabilities to customers in 2+ live demonstrations and rare oral RFIs
- Co-author white papers on cyber analytics, event-based architecture, and fraud, waste, and abuse strategy

H-1 Lead Technology Integrator, Mission Systems, San Diego, California

July 2019 – June 2020

Model Based Systems Engineer (MBSE), Future Technical Leaders rotational program

- Led behavior modeling efforts for navigation, communications, and electronic warfare systems for H-1 helicopters
- Created and updated 50+ diagrams, drawings, and models in Cameo for the Link-16 Rapid Integration design
- Designed an audio/video cable and an RF cable using SolidWorks that will be flown on all 350+ upgraded aircraft
- Earned formal customer recognition for leadership in authoring 4+ MBSE style guides for Agile hardware design

Communications Systems, Mission Systems, San Diego, California

May 2018 – July 2019

Systems Engineering Intern

- Simulated, analyzed, and validated scenarios and environments for multifunction RF systems in MATLAB
- Conducted trade studies for radios and waveforms using automated data collection and genetic algorithms
- Established consistent modeling practices between independent radar and communications modeling teams

Model Based Capability Engineering, Mission Systems, Baltimore, Maryland

May 2017 – May 2018

Systems Engineering Intern

- Generated 20+ analytical and descriptive radar models in MATLAB, Python, Rhapsody, and ModelCenter
- Evaluated timing and kinematics fidelity for mission-level analysis in AFSIM, a C++ simulation framework

Cisco Systems

May 2016 – August 2016

Project Management and IT Analyst Intern, Cisco Commerce, San Jose, California

- Enabled purchases worth 25% of Cisco's annual \$50 billion revenue by updating ecommerce portal
- Managed 5 interns to become one of 10 project teams to present to top executives at Cisco's IT Intern Showcase

IBM

May 2015 – August 2015

Operations Team Intern, Systems Middleware, Raleigh, North Carolina

- Created executive summaries on technical projects for the VP of DevOps Capability Development
- Directed meetings and tracked follow up for 52 internal projects and customer relationships

RESEARCH AND PERSONAL PROJECTS

Technical Consultant, Atlanta, Georgia

July 2020 – present

Freelancer

- Consult as researcher and content writer for automation, AI/ML, analytics, cybersecurity, and cloud technology
- Bolster clients' SEO and digital presence with articles that bring emerging technologies to a conversational level
- View samples of my work in my portfolio at <https://caitlyncaggia.com/portfolio/>

Space Systems Design Lab, Georgia Institute of Technology, Atlanta, Georgia

October 2017 – May 2018

RECONnaissance of Space Objects (RECONSO), Daniel Guggenheim School of Aerospace Engineering

- Designed a cubesat to characterize and track space debris from 1 - 10 cm in diameter in low-earth orbit
- Rebuilt the flight software state machine to downlink images from the satellite to the ground station

InVenture Prize Semifinalist, Atlanta, Georgia

December 2017 – February 2018

Defect Detect

- Developed a millimeter wave scanner to detect and measure defects in airplane fuselages and turbines
- Recognized as a top 25 semifinalist in the largest undergraduate invention competition in the United States

IEEE Signal Processing Cup, Georgia Institute of Technology, Atlanta, Georgia

August 2016 – December 2016

Undergraduate Researcher for Dr. David Anderson, School of Electrical and Computer Engineering

- Created algorithms in C++ on Raspberry Pis to track and visually represent musical beats in real time
- Competed in a national IEEE-sponsored challenge against 32 other teams of undergraduate students

The V Foundation, North Carolina State University, Raleigh, North Carolina

August 2013 – May 2014

Paid Research Assistant for Dr. John Cavanagh, Department of Molecular & Structural Biochemistry

- Conducted biochemistry experiments in a lab funded by Jim Valvano's The V Foundation for Cancer Research

INSPIRE, NASA Langley Research Center, Langley, Virginia

June 2013

Research Assistant for Luther Jenkins

- Analyzed air circulation during critical takeoff and landing periods in wind tunnel tests for the United States Army

LEADERSHIP

Georgia Tech Women in Electrical and Computer Engineering

August 2014 – May 2019

Graduate Liaison

April 2018 – May 2019

- Provided academic advice, professional mentorship, and social support among women in engineering
- Guided fellow executive board members to meet and anticipate the needs of 230+ female graduate students

President

April 2017 – April 2018

- Managed an executive board of 18 women to build an inclusive network of female engineers on campus
- Advised department chairs and industry partners on strategies and initiatives to support women in engineering
- Developed repository of meeting presentations and executive transition procedures that are still currently used

Industry Relations Chair

April 2016 – April 2017

- Raised over \$36,000 in one academic year through corporate sponsorships to fully fund our annual budget
- Built professional development content and handled logistics for weekly meetings with industry recruiters

Freshman Liaison

April 2015 – April 2016

- Created a welcoming community to attract and retain new female electrical and computer engineering students
- Recruited high school seniors to increase undergraduate women in the department from 16% to 18% in 1 year

Georgia Tech Student Foundation

August 2014 – May 2019

Board of Trustees, Member at Large

April 2018 – May 2019

- Conducted institute-wide philanthropic campaigns with the Georgia Tech Foundation and Alumni Association
- Selected and trained future Board of Trustees executives, directors, and members for the following year

Chief Operating Officer**April 2017 – April 2018**

- Supervised two directors responsible for student education of our \$1.4 million philanthropic endowment
- Directed the annual Gift to Tech award of nearly \$50,000 to an outstanding campus organization or project
- Led the restructuring process within our Development Committee responsible for recruiting donors

Director, Freshman Leadership Initiative**April 2016 – April 2017**

- Managed a 20-person committee to promote philanthropy among current students and young alumni
- Directed the interview and committee selection process; established a yearlong timeline for promotional efforts
- Mentored first-year students to grow into leadership roles within the Student Foundation and across campus

Sophomore Adviser, Freshman Leadership Initiative**April 2015 – April 2016**

- Added nearly 200 new donors to raise \$1000 in two weeks which was critical to meet annual donation goals
- Ran weekly meetings to teach students about marketing, networking, event planning, finance and investing

Member, Freshman Leadership Initiative**August 2014 – April 2015**

- Selected as one of 16 students in the GT Class of 2018 into talent pipeline and professional development team

School of Electrical and Computer Engineering, Georgia Institute of Technology**August 2015 – May 2019****Senior Design Team Leader for RECONSO (see Research Projects section)****August 2017 – May 2018**

- Managed a team of four students to meet both project-specific goals and general senior design timelines
- Facilitated collaboration as primary point of contact between electrical and aerospace faculty members

First-Year Seminar Team Leader for Dr. Joyelle Harris**August 2015 – December 2015**

- Designed and led weekly seminars for 50+ students on professional development and industry knowledge

TEACHING & MENTORSHIP**Tutor, self-employed****September 2019 – present****Freelance Tutor and Mentor**

- Mentored 5+ local high school female students to encourage their pursuit of technical degrees and disciplines
- Created review guides and practice problems in physics and calculus to raise confidence and exam scores
- Provided insight to students and parents for college prep, application essays, entrance exams, and student life

School of Electrical and Computer Engineering, Georgia Institute of Technology**August 2018 – May 2019****Graduate Teaching Assistant for Professor Christina Bourgeois**

- Taught engineers efficient and effective technical communication skills in academic and professional settings
- Advised 50+ students on technical reports, resume content, and interview techniques in 1:1 consultations
- Evaluated 150+ project proposals, research papers, and presentations to prepare for senior design deliverables

Georgia Tech Student Foundation, Georgia Institute of Technology**August 2016 – May 2019****Board of Trustees Mentorship Director and Mentor**

- Implemented yearlong professional mentorship program to pair upperclassmen with 16 first-year students
- Continued serving as a mentor as COO and as a Member at Large to personally mentor 4 students in a 1:1 setting

Georgia Tech Women in Engineering, Georgia Institute of Technology**August 2016 – May 2018****M&M Mentorship Program Mentor**

- Guided 4 undergrad women in electrical or computer engineering on academic, professional, and personal topics
- Attended monthly trainings, professional industry networking events, and social luncheons with mentees

School of Physics, Georgia Institute of Technology**August 2015 – May 2017****Undergraduate Teaching Assistant for Dr. Ed Greco**

- Facilitated labs and led help sessions for 90 students in introductory mechanics and electromagnetics classes
- Tutored students in one-on-one sessions covering general physics concepts and specific class assignments
- Trained new teaching assistants how to conduct labs, grade assignments, and resolve conflicts in lab groups

PROFESSIONAL ORGANIZATIONS

IEEE	2016 – present
<i>Aerospace and Electronic Systems Society</i>	<i>2019</i>
<i>Communications Society</i>	<i>2019</i>
<i>Signal Processing Society</i>	<i>2016</i>
Society of Women Engineers	August 2014 – present
<i>Professional Chapter</i>	<i>May 2019 – present</i>
<i>Georgia Institute of Technology Chapter</i>	<i>August 2014 – May 2019</i>

HONORS & AWARDS

Eta Kappa Nu, Georgia Institute of Technology	August 2016 – May 2019
<i>Honor society within IEEE to promote scholarship, character, and attitude.</i>	
Provost Scholarship, Georgia Institute of Technology	August 2014 – May 2018
<i>One of 40 students selected from nearly 25,000 applicants for demonstrating extraordinary academic achievement, outstanding leadership skills, and high potential in and outside the classroom. Total award of about \$80,000.</i>	
Georgia Tech Women in Engineering Scholarships	March 2015 – March 2018
<i>Recognition of academic accomplishment and leadership skills among undergraduate female engineers.</i>	
<i>George Family Foundation Scholarship, \$1,000 for an outstanding female engineering senior</i>	<i>March 2018</i>
<i>Abbott Scholarship, \$2,000</i>	<i>March 2017</i>
<i>Rockwell Automation Scholarship, \$1,000</i>	<i>March 2016</i>
<i>Alcoa Scholarship, \$1,000</i>	<i>March 2015</i>
Gold Award, Girl Scouts of the USA	August 2011
<i>Designed, organized, and led a robotics course for 20 underprivileged students at Kingswood Elementary in Cary, NC</i>	