

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++, SQL, DAX, VHDL | Windows, macOS, Linux (Ubuntu, CLI)
Cloud Platforms: Databricks (Delta Lake, MLflow), Azure (Synapse, Data Lake), AWS (cloud practitioner)
Modeling Software: PowerBI, Tableau, Alteryx, Cameo, Rhapsody, ModelCenter, Solidworks, 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

Seamless AI

July 2023 – present

Data Ops & Engineering, Atlanta, GA

June 2023 – present

Senior Data Engineer

- Ingest, clean, and deduplicate data for contact and company identity resolution used for sales lead generation
- Monitor data systems performance, troubleshoot data issues, perform root cause analysis, and optimize jobs
- Drive continuous improvements to data reliability, efficiency, and quality with extensive automated testing

Peraton

January 2021 – July 2023

Pandemic Response Accountability Committee (PRAC), Atlanta, Georgia

June 2022 – July 2023

Lead Data Engineer, Pandemic Center of Excellence (PACE) Program

- Develop, optimize, and maintain data pipelines to detect fraud in the \$5T COVID-19 pandemic relief funding
- Modernize data architecture to use Databricks Delta Lake and Python scripts for >15x runtime improvement
- Automate quality control checks to reduce error rate to <1% and manual review time from days to minutes
- Liaison between infrastructure, investigative, and data science teams to balance business and technical needs

Global Health and Financial Solutions Sector, Atlanta, Georgia

January 2021 – May 2022

Principal Solutions Architect, Campaigns and Solutions

- Drove new civil and health sector growth as a solutions architect focusing on CMS projects and programs
- Architected technical solutions for cloud-based AI/analytics capture and proposals totaling over \$1B in TPV
- Managed 6 engineers to prioritize tasking, provide mentorship, and guide career development

Lead Databricks Developer, High Volume Transaction Processing Internal Research and Development

- Wrote Python scripts to process data ingest, cleaning, and processing for use in ML algorithms and visualizations
- Initiated analysis of alternatives, vendor partnerships, MVP production environment, and prototyping
- Served as scrum master for team of 5 software engineers to support Agile software development methodologies

Northrop Grumman Corporation

May 2017 – January 2021

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

June 2020 – January 2021

Solutions Architect, Future Technical Leaders rotational program

- Presented analytics solutions and AI capabilities to customers in 2+ live demonstrations and rare oral RFIs
- Co-authored white papers on cyber analytics, event-based architecture, and fraud, waste, and abuse strategy
- Developed technical solutions for civil and health customers, including the DOJ, TSA, CDC, and JOMIS

Data Analyst, Defense Systems Sector financial reporting

- Automated sector-level financial forecasting dashboards using Python, Alteryx, and Power BI as lead developer
- Expanded analytics capabilities from SAP/spreadsheet-centric tracking to include what-if predictions
- Led team of 4 developers by translating business objectives to assign and prioritize technical tasks

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 on navigation, communications, and electronic warfare systems in 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

PROFESSIONAL ORGANIZATIONS

IEEE **2016 – present**

Aerospace and Electronic Systems Society 2019

Communications Society 2019

Signal Processing Society 2016

Society of Women Engineers **August 2014 – present**

Professional Chapter May 2019 – present

Georgia Institute of Technology Chapter August 2014 – May 2019

HONORS & AWARDS

Eta Kappa Nu, Georgia Institute of Technology **August 2016 – May 2019**

Honor society within IEEE to promote scholarship, character, and attitude.

Provost Scholarship, Georgia Institute of Technology **August 2014 – May 2018**

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.

Georgia Tech Women in Engineering Scholarships

March 2015 – March 2018

Recognition of academic accomplishment and leadership skills among undergraduate female engineers.

George Family Foundation Scholarship, \$1,000 for an outstanding female engineering senior

March 2018

Abbott Scholarship, \$2,000

March 2017

Rockwell Automation Scholarship, \$1,000

March 2016

Alcoa Scholarship, \$1,000

March 2015

Gold Award, Girl Scouts of the USA

August 2011

Designed, organized, and led a robotics course for 20 underprivileged students at Kingswood Elementary in Cary, NC