Zachary Elis

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Education

Georgia Institute of Technology, Atlanta, GA **August 2021 - Present**

- Bachelor of Science in Computer Science
    - Threads: Intelligence and People
- Overall GPA: 3.90/4.0, Major GPA: 4.0/4.0 *(Faculty Honors and Dean's List Academic Achievement Awards)*
- Expected Graduation: May 2025

Skills

Technologies: Bootstrap, Docker, Git, JUnit, MSTest, Scikit-learn, React.js, PyTorch, WPF, .NET
Programming Languages: C, C#, C++, CSS, HTML, Java, JavaScript, Kotlin, MATLAB, Python, XAML

Experience

Georgia Tech Research Institute *40 hrs/wk* **August 2023 - December 2023, May 2024 - August 2024**
Software Engineering Co-Op; Aerospace, Transportation, and Advanced Systems Laboratory (ATAS): Systems Development Division
Marietta, GA

- Developed software for Department of Defense contracts utilizing Model-View-ViewModel software design patterns to fully integrate numerous software modules layered on top of one another through a dependency injection framework using C#, XAML, .NET, and WPF
- Collaboratively developed NuGet libraries to allow the reuse of code throughout multiple projects in ATAS
- Ensured robustness and accuracy of code through test-driven development following the MSTest framework
- Implemented networking practices to allow the sending and receiving of data between various systems using unicast, broadcast, and multicast communication types- including UDP and TCP transmission protocols

Runway *20 hrs/wk* **May 2023 - August 2023**
Software Engineering Intern
Atlanta, GA

- Helped develop and improve full stack website that utilizes Java Spring Boot, React.js, and AWS S3/EC2
- Coordinated with UI/UX designers utilizing Figma to create friendly interfaces and intuitive interactions through the use of JavaScript, CSS, and HTML
- Troubleshot and debugged applications to optimize product performance

Georgia Institute of Technology College of Computing *15 hrs/wk* **December 2022 - May 2023**
Teaching Assistant; CS 2050: Discrete Math CS
Atlanta, GA

- Collaborated with 4 professors and 31 TAs to serve a course consisting of over 850 students
- Tutored students in computer science concepts, created and graded homework assignments and exams
- Planned and led a weekly recitation section of 45 students to foster a deeper understanding of the course

Amos Mosquitos *40 hrs/wk* **May 2022 - August 2022**
Barback/Busser
Atlantic Beach, NC

- Coordinated with managers and kitchen staff to provide efficient service to customers
- Worked extra shifts and extended hours to assist co-workers and managers in the demanding restaurant industry

Georgia Institute of Technology Mastering Android Development Club *2 hrs/wk* **August 2022 - Present**
Club Member
Atlanta, GA

- Actively participate in weekly meetings and contribute to project initiatives
- Develop functional applications utilizing Android Studio and Kotlin/Java

Leadership

Fraternity Executive Council *3 hrs/wk* **November 2021 - December 2023**

Chapter Marshal

- Member of a 9-member council to manage a fraternity of 80+ members
- Met weekly to collaborate with the council in conducting the business of the chapter
- Coordinated and led chapter special events monthly

Sidechat *5 hrs/wk* **June 2022 - October 2022**

Team Lead

- Led a group of 14 members in outreaching to organizations on Georgia Tech's campus to form partners with the app to promote its launch
- Developed a step-by-step process for facilitating the creation of group partnerships and produced templates for team members to communicate with organization representatives

Relevant Projects

Senior Capstone: Siemens Contractor Safety Data Interface

- Capstone project with Siemens to produce an interface that automates contractor check-in, stores relevant safety data, and provides EH&S professionals with access to this live data at manufacturing sites across the U.S.
- Developing a multifaceted web-app and cloud database to meet requirements set by Siemens plant managers under the guidance of senior Siemens IT officials and software engineers

Aware Home Research Initiative: AI-CARING

- Restructured software architecture and improved machine learning models for the AI-CARING Aware Home Research Initiative to assist adults with mild cognitive impairment and detect diseases such as early-onset Alzheimer's
- Implemented a scalable solution to ongoing issues with motion sensor triggers causing errors during system demonstrations within the smart home
- Developed and debugged Aware Home demonstrations for the U.S. National Science Foundation

Automating Rare Star Classification Through Hubble Space Telescope Photometry

- Group collaboration with astronomers and physicists from the University of California, Santa Cruz and Juniata College to automate the classification of rarely occurring stars, such as Wolf-Rayet stars, through machine learning models trained on photometry data collected from over 20 million images taken by NASA's Hubble Space Telescope
- Optimized the pre-processing of data and employed both supervised (random forest classifier, support vector machine, gradient boosting machine) and unsupervised (K-Means clustering, t-distributed stochastic neighbor embedding) machine learning algorithms to identify inherent clusters, explore emergent patterns, and create photometry data visualizations while navigating the niche challenges posed by the Hubble Telescope's unique data collection methods

Interests

Tournament fishing, scuba diving, backcountry backpacking, (Georgia Tech) college football, and my family's two Australian shepherds