ALEXANDER FERRARA

linkedin.com/in/a-ferrara | alexanderferrara3@gmail.com | 586 429 1105 | alexanderferrara.com

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY — **Atlanta, GA**

B.S. Computer Engineering | M.S. Computer Science

WORK EXPERIENCE

Booz | Allen | Hamilton — **Remote**

Lead AI/ML Engineer | Generative AI Accelerators — April 2024 – Present

- Led the design and development of agentic generative AI projects, utilizing cutting-edge tech stacks like LangChain, LangGraph, and Azure OpenAI to deliver scalable, innovative solutions for document co-authoring and decision-making systems.
- Built and deployed cloud-native solutions across Azure, AWS, and GCP, with expertise in Azure AI Search, vector stores, and containerized applications, integrating diverse cloud resources to create robust, scalable applications.
- Provided comprehensive leadership to 5 direct reports, spanning career management and project-level leadership responsibilities, including performance evaluations, task delegation, team development, and operational oversight of technical deliverables.
- Contributed as an IC to multiple generative AI projects, including two agentic systems and a proposal-writing automation tool, focusing on unstructured document ingestion, organization, and strategic retrieval to power retrieval-augmented generation (RAG) systems.

Cruise — **Remote**

Senior Software Engineer – Embedded Systems, Manufacturing — June 2023 – February 2024

- Led software enhancements for manufacturing and health verification of autonomous systems across early development, end-of-line testing, and vehicle service.
- Utilized Python, C++, and Robot Operating System (ROS) for data collection, analysis, and process optimization.

General Motors — **Detroit, MI / Remote**

Senior Design Release Engineer – Autonomous Vehicle Computing — December 2021 – June 2023

- Provided technical leadership and decision-making for functional hardware development teams, resolving top pressing issues efficiently.
- Developed data processing tools to analyze large datasets, identifying component health anomalies during manufacturing and forecasting device reliability. This directly informed millions in spend decisions and enabled earlier device service logistics planning.
- Applied knowledge gained from autonomous vehicle compute platform design and development to optimize future compute systems development processes throughout full product development lifecycle.

Design Release Engineer – Autonomous Driving System Computer — June 2019 – November 2021

- Launched a new autonomous vehicle computing hardware platform
- Directed work of multiple international suppliers and cross functional team efforts including senior engineers and SMEs.
- Led project activities through design and development lifecycle from early experimental validation through commercial launch.
- Identified design, manufacturing, and assembly opportunities to satisfy vehicle program needs while minimizing cost.
- Operated at the intersection of Cruise start-up culture and GM automotive standard processes.
- Negotiated and managed spend on multimillion-dollar hardware/software development contracts.

Systems Engineer – Connectivity Technologies — November 2018 – May 2019

- Supported subject matter experts for technologies including Apple CarPlay, Android Auto, Bluetooth, and Wi-Fi.
- Led "Advanced Technology Work" project centered on vehicle data offloading and secure Wi-Fi enablers for V2X applications.
- Contributed to systems engineering specifications and requirements for several functional modules.
- Coordinated projection technology certification efforts for LG Low Radio Program, and supported feature/system owners on multiple. additional infotainment program certifications – collaborating with external partners such as Apple and Google.

Infotainment Execution Engineer — July 2017 – October 2018

- Led infotainment execution efforts across ten vehicle programs throughout system development lifecycle.
- Developed software tools to enhance workflow processes among infotainment and greater electrical community.
- Level 1 infotainment support at Proving Grounds facility providing issue root cause and resolution to ensure launch quality.

Booz | Allen | Hamilton — **Atlanta, GA**

Developer Intern — May 2014 – August 2016

Completed work full-time during summer semesters, as well as half-time throughout primary academic semesters

- Contributed source code, primarily focused on full stack web technologies, on eight client applications (federally contracted).
- Developed for projects throughout each stage of the software performance lifecycle (EPLC), all utilizing agile methodology.
- Exemplified leadership and presentation skills through management consulting-oriented intern case competition over the duration of each summer, winning first place while acting in the role of team leader.

Georgia Institute of Technology — Atlanta, GA

Undergraduate Teaching Assistant - Digital Design Laboratory — August 2015 – December 2015

Facilitated course focused on rapid prototyping of digital systems and FPGA design

Haplit – Georgia Tech Idea to Prototype Program, CreateX Startup Summer — August 2015 – May 2017

Multidisciplinary effort to develop a more affordable and durable learning aide for the visually impaired

Freelance Mobile Application Developer — November 2015 – August 2016

Independent contract development of a social networking mobile-fist application to connect athletes and organize events

SKILLS & INTERESTS

Proficiencies: Software Engineering, Python, System Design, Technical Program Management, Generative AI Solutions, Robotics and Autonomous Systems, Autonomous Vehicle Computing Platforms, Agentic Systems, High-Performance Computing, C++, Embedded System Design, Computer Networking, Hardware + Software Produce Lifecycle Execution, Data Analysis and Modeling

Experienced: Algorithm Design and Optimization, Multi-Modal Sensor Fusion, C#, Java, SQL, Digital Signal Processing, Full Stack Development, Digital Logic Design, MIPS Assembly, Android ADB, Wireless Signal Interception and Packet Analysis, CS/Network Information Security, CAN, C, Oscilloscopes, Powershell, RTC/JIRA, Digital Logic Analyzers, MATLAB, VHDL, Vehicle Spy, Device Based Logging and Analysis

Achievements: GM Executive Reverse Mentorship Program, GM Vehicle Engineering TRACK Stars Fall 2018, DFSS Black Belt Certification

Hobbies: Skiing, travel, outdoor recreation, software development passion projects, 3D printing (esp when overlapping with SW element!)

RELEVANT COURSEWORK

Undergraduate Studies:

Embedded Computing Systems
Programming Hardware/Software Systems
Architecture, Concurrency, Energy in Computation
Integrated Circuit Fabrication
Capstone Design – Autonomous Boating

Graduate Studies:

High Performance Computer Architecture
Machine Learning for Trading
Artificial Intelligence for Robotics
Computer Networks
Algorithms