Yash Gharat

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Aspiring senior software engineer with 7 years of experience in innovative applications and interdisciplinary collaboration.

SKILLS

LANGUAGES: Python, Java, C, C++, Javascript, HTML/CSS

TOOLS AND FRAMEWORKS: Agile Dev, JIRA, Jupyter, CMake, Linux, Material.io, Angular, Node.js, AWS, Git, React, SVN, Artifactory

EXPERIENCE

Raytheon/Collins Aerospace **July 2024 - Present**

Senior Software Engineer

- Architecting a high-concurrency Java communication platform featuring real-time event processing and failover protocols to ensure high availability across distributed hardware nodes.
- Partnered with a **Technical Leader** to design and deploy an internal **Retrieval-Augmented Generation (RAG) chatbot** to **accelerate corporate knowledge transfer**; demonstrated the upgraded solution to **100+ senior engineers**.
- Automated the **Linux OS build pipeline** using **Kickstart** and **Ansible**, integrating stringent **security compliance** standards and remediating **350+ vulnerabilities** to strengthen system reliability and maintainability.
- Spearheaded integration of real-time gRPC protocols into a legacy **Java/Apache** system, independently leading **full-stack development** (**Java API** backend, **Backbone.js** frontend) to update legacy infrastructure and demonstrated autonomous technical leadership in high-stakes delivery.

CAEUSA **August 2021 - June 2024**

Application Software Engineer

- Solely **owned the design and implementation** of a high-performance **Angular dashboard UI** featuring 30+ reusable components and XML-driven modular widgets, **cutting design turnaround by 80%** and establishing the new **project standard**.
- Developed a **real-time Multi-System Health monitoring solution** (Angular/C++) by leveraging **Prometheus scraped metrics**, which reduced overall **system downtime by 40%** and improved operational visibility.
- Engineered a high-throughput **C++ application and serialization library** to concurrently manage message passing across **5 distributed systems**, resulting in a **25% reduction in integration errors** and improving platform interoperability.
- **Led a 4-person team** to enhance an Electron application that **rasterizes high-volume image datasets (1000+)** into 3D models, delivering significant **UI/UX improvements** and accelerating data processing for field analysis.

Modeling and Simulation Co-op

- Built a **Q-learning model** using **real-time sensory data,** boosting classification accuracy by **30%** in a controlled environment.
- Engineered a solution to decode and standardize **real-time protocol data units (PDUs)**, which accelerated centralized decision-making and performance across a large-scale, multi-node environment.
- Decoded **Link16 PDUs**, improving centralized decision-making across **multiple CGFs** in large-scale simulated combat exercises.
- Collaborated on a Human-Machine Teaming project focused on multi-domain operations, measuring trust in complex **AI-driven synthetic teammates** to enhance mission performance.

Unmanned Autonomous Systems Lab **June 2020 - August 2021**

Intern/Research Assistant

- Improved system processing performance by **60%** by **decoupling compute-intensive modules** from the core application and implementing them as **external Python services**.
- Designed a priority-based task reallocation algorithm using **nearest-neighbor logic**, significantly enhancing **system resilience** and reliability in a **distributed environment**.
- Applied Markov Decision Processes (MDPs) to optimize dynamic task allocation for **autonomous agents**

STIR Lab **August 2019 - October 2020**

Full Stack Developer/Researcher

- Developed a secure Android application with a **scalable**, **serverless AWS backend** (Cognito, S3, Lambda, API Gateway) to collect and manage data for 200+ active users in an HCI research study.
- Developed a full-stack administrative dashboard in Angular to automate user management workflows, reducing operational overhead by 50% and increasing user retention.

PROJECTS

PhantoMouse

- Generated synthetic 3D dataset with Blender/Unity for ML project, enhancing prosthetic mouse accessibility and improving model training accuracy by **25%**

Envoy Commander

- Developed distributed RL model for gamified env, with a central learning commander and helper agents for multi-armed bandit tasks.

EDUCATION

M.S. Computer Science **2024**

University of Central Florida
Coursework: Network Optimization, Computer Architecture, Algorithms on Strings and Sequences, AR Engineering

B.S. Computer Engineering **2022**

University of Central Florida