

# Neel S. Sani

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## EDUCATION

### Georgia Institute of Technology

Atlanta, Georgia

*B.S. in Computer Science*

*Expected Graduation - May 2027*

- GPA: **4.00/4.00**
- Concentrations: Systems & Architecture, Artificial Intelligence
- Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Computer Organization & Architecture, Discrete Mathematics, Linear Algebra, Multivariable Calculus

## EXPERIENCE

### Full-Stack Software Engineer Intern

Jun 2023 — Present

iVue *Atlanta, Georgia*

- Architected distributed cloud infrastructure serving **50+** concurrent drone deployments using **AWS** services (Lambda, DynamoDB, IoT Core, Kinesis, S3, CloudFront), **Terraform** IaC, and **GitLab CI/CD** pipelines, driving **\$5,000+** revenue growth.
- Developed production-grade **Linux embedded system (Buildroot, C++, GStreamer)** with real-time **WebRTC** streaming and **MAVLink** telemetry integration all over 4G LTE networks, enabling BVLOS operations and expanding addressable market by **40%**.
- Implemented zero-touch device provisioning with **AWS IoT Core JIT** provisioning and automated shell scripts, reducing deployment time **90%** and enabling seamless scalability for enterprise clients across **3** continents.
- Optimized critical backend APIs using **Golang Lambda** functions, intelligent caching strategies, and database query optimization, achieving **sub-90ms P99** response times and supporting **9x** traffic growth.
- Built comprehensive drone simulation platform with **SITL, Node.js**, and physics modeling, cutting hardware testing costs **85%** and accelerating development cycles **3x** through automated testing.
- Created browser-native mission control interface using **Vue.js, WebSerial, WebUSB**, and **WebAssembly**, eliminating desktop dependencies and enabling cross-platform accessibility on mobile and desktop.
- Collaborated with cross-functional teams using **Agile** methodologies, participating in sprint planning, code reviews, and technical architecture decisions.

### Customer Service Associate

May 2023 — Aug 2023

Walmart

*Johns Creek, Georgia*

- Maintained **90%** customer satisfaction scores while serving **200+** daily customers in high-volume retail environment.
- Trained **5+** new team members on POS systems and operational procedures, reducing onboarding time **40%** and improving efficiency.

## PROJECTS

### RideCast ML Platform ([github.com/neelsani/ridecast](https://github.com/neelsani/ridecast))

May 2024 — Aug 2024

- Engineered end-to-end machine learning pipeline predicting ride cancellations with **99.2%** accuracy on **150K+** real NYC taxi bookings using **PyTorch** neural networks, advanced feature engineering (**21→381** features), and ensemble methods.
- Conducted comprehensive statistical analysis identifying critical **35-minute** wait time threshold, providing actionable business intelligence worth millions in revenue protection.
- Built scalable inference API with **<50ms** latency supporting **900+** requests/second using **GPU** acceleration, batch processing, automated testing, and comprehensive monitoring.
- Implemented robust data pipeline with **Pandas, NumPy** for preprocessing **9GB+** datasets and model validation using cross-validation and A/B testing frameworks.

### AI-Powered Autonomous Targeting System ([github.com/neelsani/OpenCV-Turret](https://github.com/neelsani/OpenCV-Turret))

Jan 2022 — May 2023

- Developed real-time computer vision tracking system using **Python, PyTorch**, and **YOLOv5** for object detection, integrated with **Arduino C++** for servo actuation, achieving **95%+** target acquisition accuracy at **30+ FPS**.
- Implemented **PID control algorithms** with Kalman filtering for precise servo movement, delivering **<80ms** end-to-end latency and **±2°** targeting precision across diverse target types and lighting conditions.
- Designed modular hardware-software architecture supporting multiple camera inputs and servo configurations.

## SKILLS

- **Programming:** Python, C, C++, Go, Java, JavaScript/TypeScript, SQL, Bash, HTML/CSS, Zig
- **Libraries & Frameworks:** React, Vue, Next.js, Node.js, Express.js, FastAPI, Flask, Django, GraphQL, REST APIs, Yocto, Buildroot
- **Cloud & DevOps:** AWS (Lambda, EC2, S3, RDS, IoT Core, CloudFront), GCP, Terraform, Docker, Kubernetes, CI/CD, Git
- **ML & Data:** PyTorch, TensorFlow, OpenCV, Pandas, NumPy, Scikit-learn, Jupyter, Matplotlib, CUDA, Statistical Analysis