# Sreesanth Adelli

sadelli@olin.com · 919-349-3702 · github.com/sreesanthadelli · linkedin.com/in/sreesanthadelli

## Education

**Olin College of Engineering**, Needham, MA
*B.S. in Electrical and Computer Engineering* Class of 2028
GPA: 3.9 / 4.0
Relevant coursework: Linear Algebra, Multivariate Calculus, Modeling and Simulation, Mechanical Design, Software Design, Introduction to Circuits

## Experience

**Sustainability Modeling Intern** *May 2025 – Present*
*XStarResearch*

- Developed secure, OAuth-authenticated pipelines in Python to extract and normalize embodied carbon data (A1–A3) from the EC3 REST API, enabling real-time integration with material cost workflows
- Designed and implemented a custom SQLite-backed system for mapping internal construction components to third-party Environmental Product Declarations (EPDs), supporting fast, queryable access to lifecycle carbon metrics
- Built high-performance tools in C++ to compute carbon-adjusted cost estimates across 5,000+ materials, enabling scalable tradeoff analysis between environmental impact and economic efficiency

**Computer Vision Lead** *September 2024 – May 2025*
*Olin Aeronautics Project Team*

- Implemented a real-time vision pipeline for sub-80ms object detection, tracking, and mapping using YOLOv8, OpenCV, TensorRT, and ROS2; achieved 97% mAP on custom aerial imagery
- Designed and optimized drop-decision algorithms for sub-10m precision payload deployment by integrating Kalman filtering with aerodynamic models
- Led system integration across onboard compute and flight control, contributing to mission autonomy and rapid field test iteration

## Projects

**Bitcoin Binary Options Trading Bot** `github.com/sreesanthadelli/BitcoinBinaryOptions`

- Developed an automated trading system in Python for Bitcoin binary options using real-time price feeds and the Black–Scholes model
- Integrated Kalshi's trading API and built a volatility surface from live option data to inform optimal trade pricing and execution
- Implemented a modular simulation framework with logging, risk controls, and strategy testing for short-term financial prediction

**Speech Recognition Bias Mitigation Research**

- Co-authored a research poster presented at AAAS on bias reduction in ASR systems for stuttered and accented speech
- Fine-tuned wave2vec 2.0 and Whisper models using PyTorch and HuggingFace Transformers on multilingual, disfluent speech datasets
- Achieved 14% lower Word Error Rate (WER) on stuttered English and 47% lower Character Error Rate (CER) on stuttered Mandarin

**C++ ASCII Raycasting Engine**

- Built a Wolfenstein-style 3D raycasting engine in modern C++ with a real-time game loop and fixed-point math optimizations
- Rendered dynamic scenes entirely in the terminal using ASCII graphics and the ncurses library for fast keyboard input and screen control