

ANEESH GANTI

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EDUCATION

University of Illinois at Urbana-Champaign
Bachelor of Science in Mathematics and Computer Science

Expected Graduation: May 2027
GPA: 3.85/4.00

Relevant Coursework: Data Structures, Algorithms & Models of Comp, Applied Machine Learning, Artificial Intelligence, Database Systems, Computer Architecture, Software Design Lab, Data Science Discovery

WORK EXPERIENCE

Tekweld Manufacturing Remote
Backend Software Engineer April 2025 – Present

- Collaborated with 3 interns to build a sales tool that automates business targeting, personalized marketing, order fulfillment, and shipment tracking for manufacturers seeking new clients for promotional products.
- Developed Flask-based backend system with RESTful APIs, automated business data collection with Selenium, and leveraged OpenAI API for AI-driven product recommendation and logo processing with a scalable PostgreSQL database.

Illinois Space Society – Spaceshot Rocketry Program Urbana, IL
Software Engineer, Ground Station Operator August 2024 – Present

- Led guidance, navigation, and control software development for the team's goal of reaching the Karman Line.
- Optimized and debugged SAM autonomous turret control software to track the rocket throughout flight trajectory using a directional Yagi antenna to maintain continuous telemetry communication.
- Built and deployed an extended Kalman Filter to estimate our two-stage rocket's 6-DoF dynamics by mitigating the impact of faulty sensor inputs, with performance validated during a 75,000+ feet altitude launch operation.

NASA Human Lander Challenge Huntsville, AL
Software & Simulations Lead Engineer, Researcher August 2024 – Present

- Designed the ECLIPSE system, a comprehensive spacecraft-agnostic cryogenic propellant transfer protocol for NASA's Artemis Missions and deep space exploration.
- Prototyped and tested a novel solution for monitoring two-phase flow in micro-gravity during in-orbit fuel transfer operations using a capacitance sensor, Ansys simulation data, and probabilistic clustering and interpolation models.
- Authored technical paper detailing our solution design and integration with the Human Landing System; Presented findings to NASA's Cryogenic Fluid Management Department at Marshall Space Flight Center.

PROJECT HIGHLIGHTS

Model Fitting Techniques for Josephson-Junction Arrays Urbana, IL
Research Assistant, Programmer October 2024 – Present

- Modeled the geometric configuration of Josephson junction arrays in superconducting quantum architectures using momentum gradient descent with 20 random perturbations and Adam optimization.
- Replaced brute-force optimization with reinforcement learning approach to train agents on historical data to generate high-quality initial conditions and reduce computational overhead by accelerating convergence rates.

Tensor Crop Tracker (TCT) AI – HackIllinois 2025 Urbana, IL
Lead Programmer Feb 2025 – March 2025

- Built a disease detection app that diagnoses plant diseases and provides eco-friendly cures and prevention measures.
- Utilized Flask to transfer data between iOS application and external image classification and large language models.

TECHNICAL SKILLS

Programming Languages: Python, Java, C++, JavaScript, TypeScript, SQL, C, Swift, HTML, CSS, Verilog

Frameworks & Libraries: TensorFlow, PyTorch, Flask, React.js, Angular, Node.js, Express.js, Scikit-learn, Keras, NumPy

Tools & Services: Amazon Web Services (AWS), Hugging Face, PostgreSQL, PlatformIO, Docker, Git, Visual Studio Code