Joseph Farkas

(770) 990-5495 | josephfarkas@gatech.edu | linkedin.com/in/farkasjoseph | github.com/farkasjoseph | US Citizen

EDUCATION

Georgia Institute of Technology — Atlanta, GA
Bachelor of Science in Computer Science, Devices and Intelligence — *Expected May 2027*
Intended International Plan, Minors in Robotics and German — *GPA: 4.00*
- Relevant Coursework: Data Structures and Algorithms, Linear Algebra, Multivariable Calculus

Goethe Institute — Berlin, Germany
Intensive German Language Program — *May 2025 – June 2025*
- Completed B2 Level in intensive study funded by state level Student of the Year award

AATG Summer Study Program — Stuttgart, Germany
Exchange Program — *June 2024 – July 2024*
- Full immersion in language and culture at a German high school sponsored by Halle Foundation grant

EXPERIENCE

UX Assistant — Aug 2025 – Present
Georgia Tech PACE Supercomputing Center — *Atlanta, GA*
- Supporting over 5,000 researchers with incident triage across high-performance computing systems

Guidance, Navigation and Control Team — Aug 2025 – Present
Propulsive Landers @ Georgia Tech — *Atlanta, GA*
- Applying PID+LQR and nonlinear MPC to optimize rocket's fuel usage in real time powered descent
- Porting on-the-fly convexification algorithm from Python to Rust for on-device trajectory replanning

RoboCup: Autonomous Software Team — Aug 2025 – Present
RoboJackets @ Georgia Tech — *Atlanta, GA*
- Building multi-agent pathfinding, obstacle avoidance and task allocation in C++ for 6v6 robot soccer
- Strengthening ROS stack to interface with telemetry, vision, and low-level control systems

Software Intern — Aug 2024 – May 2025
Viasat Inc. — *Duluth, GA*
- Developed C/C++ firmware and Typescript frontend for prototype three-axis satellite antennas
- Improved responsiveness of ephemeris loading by 90% through multithreading and upgraded XML search
- Built algorithms for analyzing signal quality and atmospheric modeling; implemented CI pipelines for validation

Software Department Lead — Oct 2021 – May 2025
North Gwinnett Robotics — *Suwanee, GA*
- Mentored 15 students with limited prior experience in utilizing C++ to process sensor input and control robots
- Collaborated with engineers to design and manufacture robot over eight weeks while managing six-figure finances
- World Competition Autonomous Award, Divisional Champions & 3x State Champions

PROJECTS

Natural ASL Communication | *Python, TensorFlow, Jupyter, scikit-learn, Pytorch* — Sep 2023 – Feb 2024
- Applied action-based convolution neural networks on Google's Mediapipe holistic landmark model for OpenCV
- Interpreted 40 ASL phrases and 5 moods using facial expressions for natural English translation and emotive TTS
- Won second place at regional science fair

Holonomic Auto-Alignment using CV Localization | *C++, Java, ArUco* — Aug 2023 – May 2025
- Applied second-order kinematics and jerk limiting to replicate S-curve profile for discretized holonomic drive
- Fused CV estimates from fiducials with filtered odometry using a state-space model for real-time robot location

TECHNICAL SKILLS

Computer Languages: Python, Java, C, C++, Rust, JavaScript, HTML/CSS, Dart, MATLAB
Frameworks & Libraries: Tensorflow, scikit-learn, Pytorch, Jupyter, ROS, Matplotlib, OpenCV, ArUco, React
Developer Tools: Git, Linux, Docker, Google Firebase, Android Studio
CAD/CAM: Fusion 360, SolidWorks, Autodesk Inventor, 3D Printing, CNC Operation
Foreign Languages: German (Intermediate - B2), Hungarian (Native)