Brody England

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Education

Northern Arizona University Aug. 2022 – May 2026
B.S. Computer Science, GPA: 3.5 *Flagstaff, AZ*

Experience

Research Intern (Software Engineering) Jan. 2025 – Present
Northern Arizona University (SICCS / FEWSION) *Flagstaff, AZ*

- Built a satellite-image model that helps estimate how important each **border crossing** is to the supply chain; set up a clean training process and reached **82%** test accuracy.
- Co-built **HAWT**, an open-source **USGS** package that supports **water conservation** work, and used it to expand our analysis to **1,000+** basins.
- Solved **entity-to-entity commodity-flow** networks between countries, and made those runs **53% faster** by introducing parallelism and tuning settings for multiple solvers.
- Developed a facility size pipeline to determine throughput of manufacturing buildings, scaled to the entire US for modeling/implementation of other supply chain pipelines.

Research Software Engineer Intern Jun. 2025 – Aug. 2025
Griffiss Institute / AFRL Rome Lab *Rome, NY*

- Developed a **neuromorphic** avoidance model for a robot, measured by a **68%** lift in navigation accuracy, by training an **associative-learning neural** model with physical stimuli (color and vertical acceleration).
- Reduced **collisions by 75%+**, measured across simulation and hardware trials, by iterating in **Gazebo**, transferring the learned policy to the robot, and closing the loop with on-board sensing.
- Validated a successful system, measured by repeatable **KPIs** (collision rate, path efficiency) by building a clean evaluation workflow with **ROS** telemetry logging and trajectory visualizations.

Senior IT Support Technician Feb. 2024 – Aug. 2025
Northern Arizona University *Flagstaff, AZ*

- Led a 15-person team and helped improve simple onboarding, which shortened ticket resolution time by **18%**.
- Helped ship **1,000+** devices annually by ensuring Linux and Windows imaging were reliable and easy to use, alongside supported student devices in hardware repair.

Student IT Support Technician Nov. 2022 – Feb. 2024
Northern Arizona University *Flagstaff, AZ*

- Closed **3,000+** support tickets with consistent SLA compliance for students and staff by troubleshooting hardware, software, networking, and account issues.

Projects

Live Game Campaign Tracker | *SQLAlchemy, React/Vite, TypeScript* | warcaster.brodyengland.com 2025

- Built a live web application that tracks progress on **261** Helldivers II (live service game) planets and refreshes every **45 seconds**.
- Kept stable and public for **1,300+** visitors with a containerized, secure setup to allow for proper planning of future events and in-game planning.

Explainable Autonomy Kit | *FastAPI, NumPy, JavaScript/Canvas* | WhyBot GitHub 2025

- Built a robotics planner that computes routes and a **"Why?"** breakdown across **time, risk, energy, uncertainty, memory**, with **interactive counterfactual** re-planning via sliders and overlaid paths.
- Made a **full-stack demo** to allow for robotics project planning/understanding of choices/factors.

Self-Hosted Server | *HTML/CSS, Nginx, Docker, Debian* | brodyengland.com 2023

- Published a responsive portfolio with project write-ups, code links, and a downloadable resume.
- Run everything under one domain with **automatic renewals**, **backups**, and application access for user accounts.

Technical Skills

Languages: Python, C/C++, JavaScript/TypeScript, SQL, Bash
Frameworks/Libraries: Flask, React, Tailwind, PyTorch, TensorFlow, OpenCV
Systems/Tools: Linux, MacOS, Git, Docker, Nginx, SQL, ROS, SLURM