AMANE GODO

Goldsboro, NC • Open to Relocation
Email: amanegodo@gmail.com • TEL: 919-273-7196
GitHub: github.com/AmaneGodo • LinkedIn: linkedin.com/in/amane-godo-822028171

SUMMARY

Mechanical Engineer transitioning into Robotics / Autonomy software, with strong system-level reasoning in state estimation and control. Currently pursuing an M.S. in Computer Science (AI focus) and building robotics software projects centered on estimation–control interaction. Seeking Robotics Software / Autonomy Internship roles.

EDUCATION

M.S. Computer Science (AI Focus) — Merrimack College (Expected Mar 2027)
B.S. Mechanical Engineering, Cum Laude — North Carolina State University (May 2022)

TECHNICAL SKILLS

Programming: Python (NumPy, Matplotlib), Git/GitHub, C++ (in progress)
Robotics: State estimation, Kalman filtering, sensor fusion, control-estimation interaction
Engineering Tools: SolidWorks, rapid prototyping (3D printing)
Foundations: Linear algebra, probability, system dynamics
Languages: Japanese (native / fluent)

ROBOTICS / SOFTWARE PROJECTS

2D Bias-Aware Kalman Filter - IMU + GPS Sensor Fusion | Python

- Designed and implemented a 2D state estimator fusing IMU acceleration and noisy, intermittent GPS position.
- Explicitly modeled accelerometer bias as a latent state and demonstrated bias observability via innovation over time.
- Analyzed estimator behavior under fast, slow, and very slow GPS update rates, showing step-like corrections and delayed observability.
- Integrated estimation with closed-loop control to demonstrate how estimation quality directly affects control stability.
- Explained estimator behavior qualitatively, including why bias becomes observable only over time and why slow GPS updates cause step-like corrections.

Estimation-Control System Architecture (In Progress) | C++

- Built a clean multi-file C++ system with explicit separation of Plant, Estimator, and Controller components.
- Implemented clear state ownership and end-to-end data flow in a closed-loop simulation.
- Demonstrated stabilizing behavior from estimated state under negative feedback.

PROFESSIONAL EXPERIENCE

Sanwa Technologies, Inc. — Engineer
Plano, TX | Jul 2022 – Mar 2025

- Designed and modified mechanical components in SolidWorks for new product development and customer-specific requirements.
- Led cross-functional engineering efforts (US ↔ Japan) for space-related interconnect development, translating technical requirements and preventing specification risk.
- Reduced prototyping cost and iteration time through component standardization and rapid prototyping