Chinmay Murthy

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EDUCATION

University of Washington   Seattle, WA
Bachelor of Science, Electrical and Computer Engineering (3.73) | Minor in Music   *Sep. 2022 – Jun 2026*

EXPERIENCE

Software Engineering Intern   June 2025 – Sep 2025
Bidgely   *Palo Alto, CA*
- Performed supervised fine-tuning of a large language model (LLM) on a curated domain-specific dataset
- Designed and implemented a custom retrieval-augmented generation (RAG) pipeline for proprietary data, reducing response latency by 47%

Undergraduate Research Assistant   Oct 2024 – May 2025
University of Washington   *Seattle, WA*
- Optimized an MSCKF based VINS algorithm for GPS-fused visual inertial odometry on an outdoor ground robot

Geegah LLC   Ithaca, NY
Engineering Intern   *June 2024 – Sep 2024*
- Brought up and verified RF circuitry in next-gen (4x pixel density) ultrasonic imager with 200+ components
- Reengineered FPGA architecture for 25% lower resource use and 100x performance gain.
- Created Python API for USB communication, resulting in successful customer demos and IEEE IUS presentation

Applications Intern   *June 2023 – Sep 2023*
- Developed cost efficient integration of proprietary imager technology with 3 axis motion control stage
- Result was demoed and presented at DARPA ERI summit 2023 (1300+ participants)
- Prototyped and troubleshot fluidics, electronics and full web app stack for a water quality monitoring PoC device
- Used Flask in Python to create a REST API to enable fully remote operation

CLUBS AND PROJECTS

Controls Software Lead   Sep 2022 – Present
Advanced Robotics at the University of Washington (ARUW)   *Seattle, WA*
- Designed and implemented Cascade PID-LQG based controller of a 6DOF balancing two-wheel-legged robot (5-bar active suspension). Simulated in Matlab/Simulink before deploying to STM32 embedded environment
- Developing a Meta-Imitation Learning pipeline that distills many reinforcement-learned and MPC controllers into a recurrent foundation policy capable of online system identification and zero-shot adaptation to new dynamics
- Implemented and optimized inverse kinematics and gravity compensation for 8DOF differential manipulator
- Designed nonlinear sensor fusion algorithm eliminating angular drift between 3 independent IMUs on 8DOF robot
- Managed team of 10 students to deliver and document the following under tight deadlines in a 75k+ LoC codebase
  * A novel autonomous path-following algorithm that can operate at 3x the speed as its previous iteration
  * Kalman Filter localization with 2-3cm drift over 100m travel distance and fusion with fiducial markers

Wallscapes | *Swift, ARKit*   June 2020 – Present
- Created an AR IOS app to project virtual art pieces onto public spaces

FTC Robotics Team 14504 Serenity Now!   May 2018 – May 2020
- Implemented odometry, pure pursuit, spline interpolation for path planning, obstacle avoidance, computer vision using openCV and TensorFlow, and multithreaded software architecture in Java on Android (7k+ LoC).

SKILLS

Languages: C/C++, Python, Java, Verilog/SystemVerilog, Matlab, TypeScript
Developer Tools: Git, GoogleTest, ModelSim, Quartus, OpenCV, modm, Matlab/Simulink, React, Unix/Linux, ROS
Other: Arduino, Raspberry Pi, Finite Element Modeling, LaTeX, Fusion 360, CAN Bus, Oscilloscope/Logic Analyzer