

Chinmay Murthy

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EDUCATION

University of Washington <i>Bachelor of Science, Electrical and Computer Engineering (3.73) Minor in Music</i>	Seattle, WA Sep. 2022 – Jun 2026
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EXPERIENCE

Software Engineering Intern <i>Bidgely</i>	June 2025 – Sep 2025 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 <i>University of Washington</i>	Oct 2024 – May 2025 Seattle, WA
• Optimized an MSCKF based VINS algorithm for GPS-fused visual inertial odometry on an outdoor ground robot	
Geegah LLC <i>Engineering Intern</i>	Ithaca, NY 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	
<i>Applications Intern</i>	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 troubleshoot 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 <i>Advanced Robotics at the University of Washington (ARUW)</i>	Sep 2022 – Present 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