

Anthony Minh Nguyen

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Education

University of Michigan

Ph.D. in Electrical and Computer Engineering,
Advisor: Necmiye Ozay; Depth: Control Systems

Ann Arbor, MI
Aug 2026 - Present

University of California, San Diego

B.S. in Electrical Engineering, **GPA: 3.982/4.000**

Honors: Magna Cum Laude; Depth: Machine Learning and Controls

Relevant Coursework: Robotic Sensing and Estimation; Robotic Planning and Learning; Control Theory; Optimization; Probability Theory; Linear Systems; Machine Learning; Generative Models; Random Processes; Digital Signal Processing; Electromagnetism; Digital Design

La Jolla, CA
Sep 2023 - Jun 2026

Research Interests

Distributed systems; distributed optimization; distributed control; multi-agent systems; swarm systems; decentralized systems; reinforcement learning; partially observable Markov decision processes (POMDPs); planning under uncertainty; state estimation; Bayesian inference and filtering; optimal and stochastic control; robotics; generative models; machine learning; optimization

Research Experience

Existential Robotics Laboratory (UC San Diego)

Undergraduate Student Researcher

La Jolla, CA
Jan 2025 - Present

- Worked under Professor Nikolay A. Atanasov
- Developed Monte Carlo Tree Search (MCTS) algorithms for optimal control of partially observable Markov decision processes (POMDPs), with applications to sensor scheduling
- Discovered, formalized, and proved relationships among multiple particle flow particle filtering (PFPPF) formulations; derived methods to mitigate numerical instability
- Implemented PFPPF algorithms in Python for linear and nonlinear observation models using both analytical and numerical approaches
- Solved continuous-time particle flow dynamics using ODE solvers (SciPy, Diffrax) and GPU-accelerated computation (JAX)
- Completed independent graduate-level study in decision theory, Bayesian inference, Bayesian filtering, Kalman filtering, particle filtering, MDPs, POMDPs, optimal control, and reinforcement learning

IEM OPALS (UC San Diego)

Research Intern

La Jolla, CA
Jun 2022 - Aug 2022

- Worked under Dr. Linda Shi (Co-director of the UCSD Biophotonics Technology Center)
- Troubleshooted, assembled, and contributed to LabVIEW programming of cell microsurgery robotic systems based on UCSD Biophotonics Lab publications
- Collaborated with a graduate student to validate experimental results for a project investigating DNA repair mechanisms in cells treated with red light

Industry Experience

L3Harris Technologies, Inc.

Electrical Engineering Intern

Carlsbad, CA
Jun 2025 - Sep 2025

- Migrated a communication system design from Altera to Xilinx platforms; updated RTL for new hardware constraints
- Re-implemented transmission flagging logic for the revised architecture
- Presented internal seminars on recent advances in generative models and robotics

Cognicom, Inc.

Electrical Engineering Intern

San Diego, CA
Jan 2023 - Sep 2023

- Designed and implemented serial communication protocols and a precision timer circuit in Verilog
- Developed a bare-metal C program for Xilinx Zynq to control an interface for a tactical radio system

Technical Skills	Languages: Python, C, Java, Verilog, VHDL Tools: NumPy, PyTorch, JAX, TensorFlow, MATLAB, QuestaSim, Active-HDL, Xilinx Vivado, L ^A T _E X/Overleaf, Ubuntu/RedHat Linux
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Honors & Awards	<ul style="list-style-type: none"> • Magna Cum Laude Jun 2026 • UCSD ECE Booker Memorial Honors Award May 2026 • UC San Diego Provost Honors Fall 2023 - Spring 2026 • Salute to Excellence Award May 2023 (Top 1% of San Diego Unified School District Class of 2023) • University of Rochester George Eastman Young Leaders Award May 2022
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