

Kalin Kochnev

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EDUCATION

University of Connecticut

December 2025

Bachelor of Science and Engineering, Robotics Engineering

GPA - 3.975

Dean's List Fall 2021 - Fall 2024

Honors Program, STEM Scholar

TECHNICAL SKILLS

Systems and Embedded: C/C++, Rust, ROS, STM32, ESP32, FreeRTOS, Linux, Git, GPU Programming, I2C/CAN/Serial, IMU, Encoders, Motor Controllers.

Controls and Signals: PID Control, State Space Representation, Lyapunov Stability, FFTs, Convolution, Filtering, Beamforming, Numerical Methods, System Dynamics, Matlab.

Selected Coursework: Robot Control and Dynamics, Motion Planning, Digital Signal Processing, Control Systems Analysis, Algorithms, Linear Algebra, Calculus I-III, Differential Equations, Circuits Analysis I-II, Digital Logic.

CAD/Manufacturing: OnShape, SOLIDWORKS, Fusion 360, Inventor, FDM 3D Printing, Wood Lathe, Shapokeo Wood CNC, MIG Welding, Waterjet Cutter, Chop saw.

PROFESSIONAL EXPERIENCE

Intelligent Systems and Control Laboratory, University of Connecticut

Sep 2024 - Present

- Researched and implemented in ROS cutting-edge motion planning algorithms for cooperating UR3 robot manipulators for additive manufacturing.

Gilbarco Veeder Root, Simsbury, CT

Jun 2024 - August

Embedded Engineering Intern

2024

- Developed sensor drivers and data collection utilities for the STM32 to target new high value markets.
- Designed experiments and manufactured test fixtures using FDM 3D printing and OnShape.
- Saved the company \$6K by identifying cost-effective cable substitutes.
- Diagnosed and resolved a rare field issue, saving technicians and customers significant time.

Chang Liu Lab, University of Connecticut

Sep 2023 - Present

Student Researcher

- Applied Lyapunov control theory and convex optimization to analyze stability of fluid shear flows.
- Secured a \$4K research grant and a \$3K NASA scholarship.

NASA BIG Idea Challenge, University of Connecticut, Storrs, CT

Sep 2021 - Nov 2022

Software and Hardware Team Lead

- Led an undergraduate team funded \$150K by NASA to design a quadruped lunar vehicle.
- Built CAN protocol in Rust for brushless motors/encoders with GUI dashboard and ROS interface.
- Parsed IMU serial data for motor control, troubleshooted encoder issues, and integrated systems.

Systems Engineer and Project Manager

- Managed deadlines using systems engineering and Scrum.
- Communicated project findings at several symposiums, space conferences, and news outlets.
- Procured components and designed actuators during COVID shortages using FDM printers and Fusion 360.

PROJECTS

SLAM Bike: Developing a self-piloting bike using gyroscopic effect, STM32, and ODrive.

May 2023 - Present

3D Physics/Game Engine in Rust.

Sep 2023 - Present

Backpropagation Neural Network in Rust

Jan 2022 - May 2023

3D Sound Localization Algorithm: Designed DSP hardware project for sound localization, aiding the deaf. Won Highest Honor in State Science Fair.

Jan 2021 - Jun 2021

[Additional projects and details may be found here](#)