Kaloyan (Kal) Draganov

Boston, MA | kaloyan@draganov.com | 857-361-2905 | January – June 2026 Co-op Availability
https://linkedin.com/in/kaloyan-draganov-081567155/ | https://kkdraganov.github.io | https://github.com/kkdraganov

EDUCATION

Northeastern University, Boston, MA **Expected May 2028**
Bachelor of Science in Computer Engineering and Computer Science **GPA 4.0/4.0 (Dean's List)**
Activities: Northeastern Mars Rover Team, AerospaceNU Avionics, Wireless Club, Cooking Club
Coursework: Embedded Robotics, Circuits & Signals, Networks, Object Oriented Design, Algorithms & Data, Physics 2: Electricity and Magnetism, Fundamentals of Computer Science 2, Differential Equations and Linear Algebra, Cornerstones 2, Discrete Structures

TECHNICAL SKILLS

Programming: Python, Java, C++, .NET C#, MATLAB, Git, SQL, PyTorch
Embedded/Robotics: FPGAs (Quartus Prime, Verilog, Platform Designer), ROS 2, Soldering, Linux/Unix, Arduino, SOLIDWORKS
AI: MCP SDK, n8n, Pinecone RAG, OpenAI text embeddings

WORK EXPERIENCE

Uru Intelligence, LLC **April 2025 – September 2025**
Founder & CTO Wellesley, MA

- Architected technical stack from the ground up: React/FastAPI/Supabase app in Docker Compose hosted on Elestio
- Engineered an MCP-driven integration layer to extend standard LLMs to utilize third-party apps (e.g. Gmail, Calendar, Teams)
- Designed AI pipelines leveraging n8n and OpenAI agents, custom RAG vector databases in Pinecone, and OpenAI text embeddings for intelligent document retrieval and analysis

Dynamo Software **January 2022 – June 2024**
Developer Boston, MA

- Independently scoped, designed, and delivered core product features in Python, SQL, and C# after collaborating with clients to define key use cases and translate business needs into technical specifications
- Architected data pipelines and backend services integrating SQL Server and RESTful APIs for automated data processing
- Designed a "signature parser" .NET microservice in C#, creating custom pattern recognition and similarity algorithms, achieving 90% accuracy in extracting contact data from client emails and reducing manual processing time by 95%

TECHNICAL CLUBS & PROJECTS

Northeastern Mars Rover Team **March 2025 – Present**
Robotics Engineer

- Develop autonomous stack in ROS 2 on Jetson Orin, using ZED + GNSS sensor fusion for SLAM and autonomous navigation
- Optimize CAN architecture, reducing Moteus controller load to enable 200% bus capacity and fully replace PWM with CAN
- Work in 100+ member, company-structured robotics organization with tightly integrated sub-teams; placed 3rd at URC 2025

AerospaceNU Avionics **September 2025 – Present**
Embedded Engineer

- Develop flight control and telemetry software in PlatformIO C++, implementing real-time control logic for the flight computer, telemetry streams, engine ignition, and launch sequencing
- Integrate custom PCBs with onboard sensors and peripherals over SPI, I^2C, and UART, ensuring synchronized operation

Spiderbot **May 2025 – June 2025**

- Developed FPGA control logic on an Intel DE10-Nano SoC (FPGA + dual-core ARM Cortex-A9 HPS) using Quartus Prime and Platform Designer implementing arithmetic, multiplexing, and timing circuits to create finite state machines
- Integrated custom Verilog FPGA modules with the ARM HPS via the HPS-to-FPGA bridge, enabling MMIO communication with a custom developed Linux C++ application for autonomous hexapod sensor reading and PWM-based servo control

FIRST Robotics (Team 8567) **September 2020 – July 2024**
Technical Captain

- Directed a 50-member team in the end-to-end design, fabrication, wiring, and programming of a competitive 30" x 30" x 36" robot, qualifying for the New England District Championships and in our first season winning the Rookie All-Star Award
- Engineered the robot's electrical architecture, using CAN and PWM to control pneumatics and brushless motors
- Developed Java-based real-time control software, applying kinematics, PID feedback loops, odometry, and sensor fusion of IMU odometry with camera-based AprilTag detection to enable field-relative localization and autonomous path planning

INTERESTS

Robotics, Arduino, Beekeeping, 3D Printing, Computer Vision, Soccer, Rock Climbing, Skiing, Chess, Reading, Juggling