

KENNETH THOMAS DANDROW

Software Engineer | Full-Stack Development | AI/ML | Embedded Systems

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Portfolio: KennethDandrow.com • GitHub: github.com/ktdshock

LinkedIn: linkedin.com/in/kenneth-dandrow

Technical Skills

Languages: Python, Java, JavaScript, C++, C#, SQL, HTML/CSS

Frameworks: Node.js, Express.js, Angular, Spring Boot, OpenCV, Keras

Software Engineering: REST APIs, Object-Oriented Programming, Data Structures & Algorithms, SDLC, MVC, Authentication, Git, Agile

Embedded Systems: Arduino, Raspberry Pi, ESP32, STM32, Betaflight, Flight Controllers, UAV Systems, UART, SPI, I2C, GPIO, Electronic Circuit Assembly, Soldering, Hardware Integration, Sensor Integration, PCB Assembly

Databases & Tools: MongoDB, MySQL, SQLite, Docker, Linux, GitHub, Postman, VS Code

Selected Engineering Projects

Custom FPV UAV Design & Embedded Systems

Betaflight • Embedded Systems • UAV Engineering • Hardware Integration

- Engineered three custom FPV UAVs by selecting, assembling, and integrating flight controllers, ESCs, GPS, FPV systems, LiDAR payloads, and embedded electronics based on customer requirements.
- Configured Betaflight firmware through PID tuning, ESC calibration, telemetry setup, and flight optimization, delivering a freestyle drone, commercial LiDAR survey drone, and competitive racing whoop.

Deep Q-Learning Autonomous Agent

Python • Keras • Reinforcement Learning

- Developed a reinforcement learning agent capable of autonomously solving an 16×16 maze using Deep Q-Learning and neural networks.
- Improved learning efficiency through reward optimization, replay memory, and hyperparameter tuning.

TravlR Getaways Full-Stack Application

MongoDB • Express • Angular • Node.js

- Developed a MEAN-stack travel reservation platform featuring REST APIs, secure authentication, CRUD operations, and responsive Angular interfaces.
- Designed a scalable MongoDB database and modular client-server architecture.

Classroom Jeopardy Learning Platform

JavaScript • HTML • CSS

- Built a browser-based educational platform supporting customizable game boards, responsive gameplay, JSON import/export, and team score management.
- Implemented dynamic DOM manipulation, edit/play modes, animations, and persistent game management.

OpenCV Computer Vision

Python • C++ • OpenCV

- Integrated a real-time OpenCV computer vision system into a custom-built 5-inch FPV drone, implementing object detection, contour analysis, color recognition, and image processing for autonomous operation.
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Professional Experience

Owner | Computer Repair Technician | 2011–Present

- Diagnosed and repaired 1,000+ desktop, laptop, and mobile computer systems while performing hardware upgrades, operating system deployment, malware removal, board-level repair, and data recovery.
- Managed customer support, scheduling, purchasing, inventory, and daily business operations.

CNC Machine Technician | Fryer Machine Systems | 2011–2014

- Built CNC machining centers from mechanical assembly through electrical integration, calibration, diagnostics, and production testing.
 - Supported manufacturing quality standards while assembling precision industrial equipment.
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Education

Southern New Hampshire University

Bachelor of Science, Computer Science

Concentration: Software Engineering

GPA: 3.75 (Magna Cum Laude)

President's List (6 Semesters) • Honor Roll (16 Semesters)

Honors

New York State Assembly Certificate of Merit