

KENNETH THOMAS DANDROW

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PROFESSIONAL SUMMARY

Software Engineer with a B.S. in Computer Science, graduated with honors, and strong technical expertise across full-stack development, AI/ML, software development, website development, hardware engineering, embedded systems, and computer vision. Skilled at building practical software and hardware solutions, solving complex technical problems, and quickly adapting to new technologies.

TECHNICAL SKILLS

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

Frameworks & Libraries: Node.js, Express.js, React.js, Angular, Spring Boot, OpenCV, Keras, Jetpack Compose, Android SDK, Handlebars, JUnit

Software Engineering: REST APIs, Object-Oriented Programming, Data Structures and Algorithms, SDLC, MVC/MVVM, Authentication, Git, Agile Development, AI/LLM-Assisted Development

Databases & Tools: MongoDB, MySQL, SQLite, Docker, Linux, GitHub, Postman, VS Code, Android Studio, IntelliJ IDEA, Arduino IDE, Processing

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

PROJECTS

Full-Stack Travel Application

MongoDB | Express.js | Angular | Node.js

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

Deep Q-Learning Autonomous Agent

Python | Keras | Reinforcement Learning

- Developed a reinforcement learning agent capable of autonomously solving an 8x8 maze using Deep Q-Learning and neural networks.
- Improved learning performance through reward optimization, experience replay, epsilon decay, and hyperparameter tuning.

OpenCV Computer Vision Integration

Python | C++ | OpenCV

- Integrated a real-time OpenCV computer vision system with a custom-built 5-inch FPV drone, implementing object detection, contour analysis, color recognition, and image processing.

Classroom Educational Applications

JavaScript | HTML | CSS

- Developed interactive K-5 classroom applications, including a customizable Jeopardy-style learning platform and a CVC literacy game designed to help students sound out and spell three-letter words.
- Implemented picture and audio prompts, vowel selection, word building, scoring, immediate feedback, responsive interfaces, animations, persistent game state, and teacher customization.

Custom FPV UAV Design and Embedded Systems

Betaflight | Embedded Systems | UAV Engineering | Hardware Integration

- Engineered three custom FPV UAVs by selecting and integrating flight controllers, ESCs, GPS, FPV systems, LiDAR payloads, sensors, and embedded electronics.
- Configured Betaflight firmware through PID tuning, ESC calibration, telemetry setup, and flight optimization for freestyle, LiDAR surveying, and competitive FPV racing applications.

EXPERIENCE

Computer Repair Technician/Specialist | Kinetic Tech Services | March 2014 – Present

- Diagnosed and repaired 1,000+ desktop, laptop, and mobile systems, including hardware upgrades, OS deployment, malware removal, board-level repair, and data recovery.
- Provided technical support while troubleshooting complex hardware, software, and system issues for customers.

CNC Machine Technician | Fryer Machine Systems | March 2011 – August 2014

- Built, assembled, and tested Fryer MC-40 and MC-45 CNC vertical machining centers, including machines configured with 5-axis heads, integrating mechanical, electrical, and electronic systems to production specifications.
- Diagnosed and resolved electromechanical, CNC control, calibration, and machine operation issues through systematic testing and troubleshooting.

EDUCATION

Southern New Hampshire University

Bachelor of Science in Computer Science

Concentration in Software Engineering

Magna Cum Laude | GPA: 3.75

President's List: 6 Semesters | Honor Roll: 16 Semesters

AWARDS & HONORS

- **New York State Assembly Certificate of Merit**