KARTHIK RACHAMOLLA

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EDUCATION

University of Cincinnati, Cincinnati, Ohio　　　　　　　　　　　　　　　　**Graduating: May 2028**

Bachelor of Science, Major in Computer Science, Minor in Finance　　　　　　　　　GPA: 3.91/4.0

EXPERIENCE

MOTZ Engineering | Cincinnati, Ohio　　　　　　　　　　　　　　　　**Aug – Dec 2024**

Full Stack Developer Co-op

- Developed a C# Win-forms Deliverables Database Manager integrated with Access database and the Ajera API. Utilized optimized SQL queries to reduce data retrieval times by 60%
- Designed and implemented a second custom full-stack internal project management tool, allowing for detailed customization of checklists, client guidelines, and designs, which enhanced project tracking and reduced time spent searching for client information, for all employees
- Led a significant overhaul of an internal database management tool, improving overall efficiency, refining code organization, and implementing new features to align with employee needs and optimize usability
- Managed GitHub version control, employing advanced techniques like Kanban boards, branch management, rebasing, and merging to support collaborative development and increase team productivity

ATech Training | Walton, Kentucky　　　　　　　　　　　　　　　　**May – Aug 2025**

Software Engineer

- Built a frontend application with React, Vite, and Tailwind that interacts with devices using the Web Bluetooth API
- Designed a vehicle diagnostic interface using the ESP32 microcontroller family, enabling real-time data retrieval and display and accelerating vehicle diagnostics by 40%
- Used FreeRTOS to manage concurrent tasks and programmed embedded systems across multiple microcontrollers (Atmel, ESP32, STM32, Arduino), enabling communication via UART, BLE, and CAN protocols

University of Cincinnati | Cincinnati, Ohio　　　　　　　　　　　　　　**Aug – Dec 2025**

Peer Leader

- Guiding first-year Computer Science students by facilitating discussions, providing academic support, and easing their transition into college
- Creating lesson plans, one-on-one meetings, planning activities, providing tailored support, and collaborating with coordinators
- Leading a class of 20 students by addressing concerns and providing students with various campus resources to aid in their mental health, academic success, and social well-being

SKILLS

Programming: React, Python, C++, Astro, Tailwind CSS, C# .NET, SQL

Software: LabVIEW, MATLAB, Microsoft Access, KiCAD

Other: Communication Protocols, RTOS, Microcontroller programming, PCB Design

PROJECTS

Personal Trainer App | React, Javascript, Python, MySQL　　　　　　　　　**Jan – April 2025**

- Designed and developed a full-stack web application to serve as a personal trainer for gym beginners, offering tailored and informative fitness experience
- Built an interactive front-end using React, enabling users to explore exercises for specific muscle groups, create customized workout plans, and track calorie intake
- Implemented a REST API using a Python back-end to interact with and manage user data, including workout plans, dietary tracking, and body statistics
- Leveraged MySQL to efficiently store and retrieve user information, and performed basic CRUD operations

BoomChat | React, MongoDB, Express, Node　　　　　　　　　　　　　　**June 2025**

- Built a full-stack real-time chat application using React and Tailwind CSS on the frontend, with Node.js, MongoDB, and Socket.IO powering the backend.
- Implemented RESTful APIs for user auth and group chats, utilizing JWT-based session management for security
- Engineered bi-directional communication with instant messages, typing indicators, and group chat functionality via WebSockets

AVAILABLE FOR CO-OP: FALL 2026