Owen Kemp

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EDUCATION

Bachelor of Science in Computer Science	Expected May 2028
Bachelor of Science in Physics	Expected May 2028
Wright State University, Dayton, OH	GPA: 4.0

SKILLS

Programming Languages: Java, Python, JavaScript/Typescript, Rust
Development Frameworks: NodeJS, React, Angular, Spring Boot
Tools: SQL, HTML & CSS

WORK EXPERIENCE

Software Development Intern — January 2026 - Present

Raider Immersion Intern | Wright State University, Dayton, OH

- Worked with Booz Allen Hamilton's missile modeling and simulation team to develop and analyze dynamic and kinematic models of missiles and aircraft systems.
- Developed and integrated a graphical user interface (GUI) to streamline interaction with an open-source software API.
- Designed and implemented input verification and output validation, reducing manual validation errors.
- Collaborating with a multidisciplinary team to ensure completion of delegated milestones, participating in standups to report progress, perform technical reviews, and create new milestones.

PROJECTS

Car Maintenance & Gas Station Tracker — Fall 2025

Team Project | https://github.com/WSU-kduncan/cs4900-karto

- Built a full-stack application using Angular (component-based architecture, reactive forms, HTTP services) and Spring Boot (RESTful APIs, Spring Security, and JDBC for database interactions) under the guidance of the Winsupply team.
- Orchestrated database interactions using MariaDB with normalized schema design, ensuring efficient querying and data integrity.
- Ensured scalability and maintainability through modular code organization, RESTful API design, and separation of concerns between frontend, backend, and database layers.
- Integrated GitHub for version control, utilizing Pull Requests for code reviews and Issues for task tracking, fostering collaborative development.

Parallelization of the AprioriHybrid Algorithm — Fall 2025

Research Paper | https://github.com/Striker2783/parallel_apriori_hybrid.git

- Developed a scalable parallel algorithm that achieved 10+x speedup compared to its sequential counterpart.
- Introduced optimized communication strategies (OpenMPI calls, collective operations) to reduce latency and improve efficiency.
- Demonstrated effective resource management via SLURM, ensuring optimal utilization of cluster resources and minimizing idle time.
- Validated the performance gains of multithreaded workflows, showing improved throughput and reduced execution time for compute-intensive tasks.
- Conducted systematic investigation into parallelization strategies for HPC environments, focusing on the integration of OpenMPI and SLURM to address scalability challenges and optimize algorithmic performance through rigorous experimentation and theoretical analysis.