Xavier Ruyle

913-579-0103 | xxruyle@gmail.com | linkedin.com/in/xavierruyle | github.com/xxruyle

EDUCATION

University of Kansas   Lawrence, KS
B.S Computer Science, GPA: 3.96   *Jan 2026 (Expected)*
- Cybersecurity Certificate, Dean's List
- Relevant Coursework: Software Reverse Engineering, Operating Systems, Cyber Defense, Communications Networks, Artificial Intelligence, Data Structures and Algorithms, Software Engineering I & II, Embedded Systems

EXPERIENCE

Software Engineer Intern   May 2025 – Present
Union Pacific Railroad   *Omaha, NE*
- Implemented automated performance checks on embedded locomotive control units using OpenCV, reducing manual testing costs by $240,000 annually; integrated Redis for caching and JMS for distributed messaging.
- Engineered a service that periodically downloads locomotive camera images with GPS metadata for the Geospatial team. Deployed to several production level locomotive control units in the field; built using Python.
- Developed a full-stack tool leveraging Java Spring and Angular to retrieve locomotive geofence entry/exit events via RESTful APIs, persisting data in Oracle SQL, enabling real-time tracking and operational insights.
- Automated locomotive event video retrieval, reducing investigation time and minimizing potential legal costs.

Web Development Intern   Sep 2023 – Aug 2024
National Association of Insurance Commissioners (NAIC)   *Kansas City, MO*
- Implemented 1000+ website revision requests from the communications department using Drupal, ensuring best practices and site security.
- Built a Retrieval-Augmented Generation (RAG) system to index and query documents across NAIC websites, enabling staff to summarize site content more efficiently.
- Deployed front end code changes to the production environment for 3 NAIC websites using AWS.
- Managed project tasks and collaborated with team members using Jira, adhering to Agile methodologies.

Information Technology Intern   Jun 2022 – Aug 2022
Americo Financial Life and Annuity   *Kansas City, MO*
- Developed automation scripts to streamline imaging workflows, providing a 100% increase in productivity.
- Managed computer imaging and deployment, demonstrating effective cross-department communication.

PROJECTS

Douglas County Ballot Drop Boxes - Capstone | *Python, Django, RPi, OpenCV, AWS*   Jan 2025 – May 2025
- Engineered a scanning system to achieve a 99% scan rate of envelopes deposited into Douglas County drop boxes.
- Deployed a full-stack Django webapp to AWS EC2, streamlining drop box info management for election officials.
- Implemented real-time video streaming from edge devices to AWS cloud servers, improving security surveillance and election integrity.
- Designed, documented, and implemented a system architecture for Raspberry Pi, cameras, scanners, and webapp.

CHIP-8 Emulator | *C/C++*   Jun 2024 – Aug 2024
- Developed a CHIP-8 emulator from scratch in C++, implementing core CPU functionality (fetch–decode–execute cycle), opcode handling, and stack-based subroutine calls.
- Applied low-level systems knowledge of bitwise operations, timers, and instruction decoding to recreate authentic program execution.
- Implemented graphics rendering system using Raylib to replicate the original 64×32 monochrome display.
- Managed constrained memory (4 KB) and register sets efficiently to simulate embedded system limitations.

3D Graphics Voxel Engine | *C/C++, OpenGL, GLSL*   Apr 2023 – Jul 2023
- Designed an efficient graphics engine capable of rendering millions of voxels generated using Perlin Noise.
- Developed a high performance meshing algorithm and enhanced processing speed using multi-threading.
- Constructed a model loading system using the hapPLY open-source .ply parser.

Full-Stack Forum Web Application | *Python, HTML, CSS, Flask, SQLite*   Aug 2024 – Dec 2024
- Built a course-based forum app with user auth, thread creation, and discussion tools using Flask and SQLite.
- Designed RESTful endpoints and integrated SQLite to manage users, courses, and posts.
- Collaborated in a 5-person Agile team using Git and GitHub for version control and task tracking.

TECHNICAL SKILLS

Languages: C++, C, Java, C#, Python, Javascript, x86 Assembly, Racket, GLSL
Web: Flask, Django, Spring, AWS, ASP.NET, Angular, React, Drupal, CSS, Tailwind, HTML, Beautiful Soup, Selenium
Other: Raspberry Pi, Jenkins, Maven, Wireshark, OpenCV, GIT, Bash, Oracle, SQLite, Linux, Red Hat, Ubuntu, Debian, LaTeX, JSON, Regex, Pandas, Raylib, OpenGL, Agile, Jira, Slack