AAYOG KOIRALA

📞 +1(317)-332-1082   ✉ aayogkoirala@outlook.com   in linkedin.com/in/aayog   ○ github.com/Aayog   📍 open to relocation

Summary

Results-driven Software Engineer skilled in full-stack development, cloud migration, and AI-powered solutions. Proficient in building scalable applications using Laravel, React, and Node.js, with experience deploying on AWS. ICAgile Certified Professional with proven ability to lead Agile teams, optimize performance, and design robust APIs, with recent projects in GPT-4 chatbots and data-driven tools. Passionate about applying advanced technologies to enhance user engagement and operational efficiency.

Skills

Languages & Frameworks: C#, **ASP.NET Core**, Python, JavaScript, **Razor**, **React**, Java, C++
Databases, Cloud & DevOps: MySQL, PostgreSQL, MongoDB, Vector Database, **AWS**, **Docker**, Kubernetes, Linux, GCP
AI & ML Tools: PyTorch, OpenAI API, Azure AutoML
Practices & Methodologies: Agile (ICAgile ICP), Full SDLC, API Optimization, Scalability Analysis, End-to-End Ownership

Professional Experience

Software Developer | **Miami University - Myaamia Center, Oxford, Ohio**   **Jan 2023 - Jan 2025**

- Overhauled UIs and integrated internal APIs for improved user experience and system interoperability; also transitioned from CKEditor to Quill.js, providing documentation and training.
- Built data-driven analytics to track course/document interactions and restructured database schemas for dedicated child accounts, enabling actionable insights and expanded accessibility.
- Automated grant management workflows by refining form submissions, integrating targeted email reminders, and leveraging AWS S3 for secure file handling.
- Directed the migration of core applications to AWS (EC2, S3) using GitLab and Puppet, establishing robust CI/CD pipelines.
- Developed a Google Apps Script solution for file search and filtering, paired with a custom AppleScript SMB link handler to streamline file access.

Tech Stack: C#, ASP.NET, Razor, Laravel, MariaDB, GitLab, Puppet, AWS (EC2, S3), Mailtrap, Google Apps Script, AppleScript

AI Chatbot Developer | **Miami University, Oxford, Ohio**   **Jun 2023 - Jun 2024**

- Led the development of an advanced GPT-4 AI chatbot leveraging a Weaviate vector database and Cohere's classification API to streamline university services, resulting in an 80% reduction in operational costs and a 40% decrease in server load.
- Architected a scalable backend using Node.js and Socket.io for real-time communication, complemented by a React/Chakra UI frontend for seamless user interactions.
- Showcased the Library Chatbot at the Miami AI Symposium and Internet Librarian Connect 2023, highlighting practical AI applications in education.

Tech Stack: Node.js, React.js LLM, OpenAI, Weaviate (Vector DB), Cohere (Classification API), Socket.io

Healthcare Analytics Intern | **Community Health Network, Indianapolis, Indiana**   **Jun 2021 - Jun 2022**

- Developed Azure ML-based models for patient readmission, matching specialized Epic model performance and achieving an additional 5% efficiency gain through customized data engineering in healthcare analytics.
- Led critical data initiatives as 1 of 150 selected from over 2200 applicants for TechPoint Xtern program; managed sensitive healthcare data and leveraged Azure ML to enhance analytics accuracy and streamline operational processes.

Tech Stack: Azure ML, Azure Databricks, Azure Auto ML, Power BI, Excel, Pandas, Spark, Epic (EMR)

Projects

- **View Synthesis for 360° Images (Thesis):** Proposed a depth-based pipeline that converts 360° video frames into cubemaps, generating Multiplane Images (MPIs) with DepthAnything v2 and cubic alpha blending. Achieved parallax-consistent views validated by PSNR, SSIM, and LPIPS, performing on par with Google's neural MPI approach for immersive VR/AR experiences.
- **DoctorsToday API Infrastructure:** Engineered a Node.js API using MinIO, MongoDB, and MySQL, containerized with Docker, enhancing data operation efficiency, service availability, and scalability.
- **LazyEyeScroller:** Developed an innovative eye-tracking interface for hands-free social media control using Python and OpenCV. Utilized Haar Cascades for real-time facial feature detection and tracking, focusing on eyes. Implemented gaze detection algorithms for accurate scrolling control, winning first place in a GitHub-sponsored local hackathon.

Education

Master of Science in Computer Science | Miami University, Oxford, Ohio   Jan 2025
Relevant Courses: Machine Learning, High Performance Computing, Advanced Networks, Cryptography
Bachelor of Science in Computer Science | Miami University, Oxford, Ohio   Dec 2022
Capstone: Led a team in an Agile-driven project to create a Library Chatbot using Google Dialogflow (EX and CX) and Node.js.

Awards and Honors

ICAgile Certified Professional (2024); Dean's List, Miami University (2020-2022); Best Script, MLH Hackathon (2018); Shodan in Shito-Ryu Karate.