Robert Kellems

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EDUCATION

Indiana University, Bloomington, IN **May 2023**

- *Bachelor of Science in Computer Science*
  Specialization: Artificial Intelligence
- *Bachelor of Science in Cognitive Science*
- **Honors:** Phi Beta Kappa, Dean's List, Founders Scholar, Murray Austin Goldstone Scholarship for Undergraduate Research in Cognitive Science

TECHNICAL SKILLS

Languages: C/C++, Python, Java, SQL, Bash, R, JavaScript
AI & Data Science: TensorFlow, Scikit-learn, Pandas, Matplotlib, OpenCV, OpenAI LLMs
Developer Tools: Git, Docker, AWS, PostgreSQL, Atlassian Suite (Jira, Confluence, Bitbucket)

WORK EXPERIENCE

VIAVI Solutions, Indianapolis, IN (Remote) **June 2023 - Present**

Software Development Engineer, ***September 2023 - Present***

- Develop embedded C++ software which facilitates the flow of broadband spectrum data between cable network equipment and a front-end web application as part of an Agile team
- Apply object-oriented analysis and design principles to create modular, maintainable, and extensible software solutions
- Deploy and monitor software in a Linux-based environment by leveraging knowledge of Bash scripting and network protocols like TCP/IP, SSH, and HTTP
- Engage in comprehensive testing and debugging across all software and RF hardware components, ensuring excellent performance for customers and hardware vendors

AI/ML Intern, ***June 2023 - August 2023***

- Optimized in-house network data clustering algorithms by incorporating machine learning and digital signal processing techniques, resulting in enhanced performance on key metrics
- Implemented a Python-based microservice with a REST API that utilized JSON for data exchange, enabling smooth communication between ML models and other software components
- Conducted extensive research on natural language to SQL translation models and developed a web application to evaluate their performance

Indiana University, Bloomington, IN (Remote) **August 2022 - Present**

Research Assistant

- Build an experimental web application which allows users to record and submit their subjective perception of various auditory phenomena by interacting with a novel interface
- Receive the Robert J. Glushko Research Excellence Award for Outstanding Oral Presentation, highlighting exceptional communication of technical information

ACADEMIC PROJECTS

AI Futures Artificial Intelligence Ground Vehicle Challenge **Spring 2023**

- Designed and implemented computer vision algorithms to enable autonomous movement using OpenCV, received 1st place in the undergraduate category

Environmental Sound Classification with Neural Networks **Spring 2021**

- Built and trained multiple deep neural network architectures using Python and TensorFlow/Keras to accurately classify a diverse dataset of 10 everyday sound categories
- Conducted extensive experiments to optimize model performance, exploring various preprocessing techniques and fine-tuning hyperparameters to enhance classification accuracy