Zach Bernard

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Education

UNIVERSITY OF KENTUCKY | CLASS OF 2024
- Bachelor of Science: Computer Science

Experience

SOFTWARE ENGINEER INTERN | UNIVERSITY OF KENTUCKY, CAAI| NOVEMBER 2024-PRESENT
- Developed and maintained a real-time server for the Temi robot, integrating video streaming, sensor data logging, fall detection using AI, and automated daily reporting via Flask and WebRTC technologies.
- Collaborated with a team of researchers and engineers, leveraging cutting-edge machine learning frameworks to solve practical vision-related challenges.
- Contributed to the Hugging Face Transformers library to further support for the open-source AI community
- Developed and maintained PHP websites with JavaScript and HTML to support engineering initiatives.

FREELANCE SOFTWARE ENGINEER | MARCH 2020 - JULY 2020
- Collaborated with clients to gather requirements, design features, and ensure alignment with their needs.
- Designed and developed a custom Discord bot over a 5-month project timeline, leveraging Python and Discord API to deliver a fully functional, scalable solution that led to high customer satisfaction.
- Implemented advanced bot functionalities, including automated moderation, custom commands, and integration with third-party APIs.

BARTENDER, SERVER, TRAINER | J. ALEXANDERS | JUNE 2020-PRESENT
- Honed time management by successfully balancing job responsibilities with a full academic course load
- Clearly communicated with both guests and coworkers in a fast-paced environment. Maintained a 98% customer satisfaction rating while anticipating the needs for up to 300 guests per evening
- Demonstrated leadership and teaching abilities by training 30+ staff members on various points of service and restaurant knowledge.

Projects

MORSE CODE PRACTICE SITE | FLASK, MONGODB, PYTHON, HTML, CSS, JAVASCRIPT, GITHUB, AWS
- Implemented a Flask web app to develop a full-stack Morse code training web application.
- Leveraged MongoDB to allow test sets to be created, stored, queried, and dynamically loaded in the game.
- Deployed on AWS EC2, configuring domain routing and server management for public access.
- Utilized GitHub for version control, collaboration, and deployment, ensuring efficient tracking of updates and feature development.

AI POKÉMON TEAM BUILDER| PYTHON, REACT, HTML, CSS, GITHUB
- Led the development of an AI-driven Pokémon Team Builder, utilizing Python, React, JavaScript, HTML, and CSS to create an optimized team-building experience.
- Engineered a Genetic Algorithm with PyGAD to enhance team composition, leveraging data scraping and JSON file management for efficient storage and retrieval.
- Collaborated within a team to ensure seamless SDLC processes, effective version control, and strategic project management from ideation to deployment.

Skills

- **Languages**: Python, C++, C, MySQL, MongoDB, HTML, CSS, PHP, Java, JavaScript, R,
- **Developer Tools**: GitHub, Visual Studio, VS Code, RStudio, Eclipse
- **Frameworks**: AWS, FastAPI, React, Flask, semantic.ui, YOLO
- **Other Proficient Software**: Fusion 360, Creo Parametric