Xipeng Wang

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Education

Purdue University May, 2020 – Dec, 2024
Bachelor of Science (B.S.) - Dual Major in Computer Science & Game Development and Design *GPA: 3.59/4.0*
- Dean's List & Semester Honors 2020 – Present

Specialized Skills

Programming Languages: Python, Java, C & C++, SQL, JavaScript, HTML, CSS, R, Shell/Bash
Tools: OpenCV, TensorFlow, PyTorch, Git, React, PostgreSQL, MongoDB, Node.js, Express.js, Flask, Unreal Engine
Courses: Analysis of Algorithms, Artificial Intelligence, Data Mining & Machine Learning, Robotics, Systems Programming, Information Systems, Data Structures and Algorithms, Computer Architecture, Programming in C

Work Experience

Project Lead, Resume Viewer Aug, 2023 – Present
Purdue Data Mine
- Led the development of the Resume Viewer for Purdue's Data Mine Program, crafting a Full Stack solution to provide recruiters with an intuitive platform to peruse and filter through student profiles and resumes
- Employed a robust tech stack comprising MongoDB, Node.js, Express.js for back-end, and React for front-end, facilitating seamless uploading, viewing, and filtering of resumes while ensuring a structured and scalable database
- Collaborated closely with a team of UX designers, significantly enhancing the usability and overall user experience
- Supplied recruiters with a database of hundreds of student profiles, easing the process of pinpointing ideal candidates while providing a platform for students to showcase their work to recruiters nationwide

Undergraduate Research Fellow May, 2023 – Present
Jain Research Lab
- Developed a high-fidelity SAE Level III autonomous vehicle simulator in Unreal Engine 5, facilitating data collection for human subject experiments and cognitive state modeling through controlled driving scenarios
- Designed a modular framework for swift setup of experimental trials, granting researchers full creative control
- Implemented diverse data collection strategies like segmentation for gaze mapping and fixation identification, leveraging the simulation's strengths to delve deeper into user interaction and cognitive states analysis
- Collaborated with PhD students on experiment design, solving complex challenges to meet research objectives

Projects

Software Developer, Lets-Ride Project
Purdue University
- Released a platform hosting NFL data analytics, providing match predictions, player statistics, and team rankings
- Utilized PostgreSQL, Flask, Node.js, and React to create a user-friendly interface for real-time data management and designed a comprehensive relational database schema, optimizing data relations and application performance
- Devised a prediction algorithm using current and past seasons' performance, providing insights for future games

Undergraduate Computer Vision Researcher
Purdue Data Mine
- Developed a real-time Computer Vision based application for pet identification and health diagnostics for Elanco
- Designed and implemented a robust deep neural network for accurate pose estimation and classification
- Employed a mix of transfer learning and hyperparameter tuning to optimize the performance of an object detection model, enabling accurate breed classification and enhancing the generalizability of the pet identification system

Undergraduate Computer Vision Researcher
Purdue RoboMasters
- Led the development of a photo-realistic synthetic data creation tool to enable generation of limitless randomizable unseen training data for object detection models, providing a cost-effective and scalable solution for data acquisition
- Utilized feedback loops to pinpoint model deficits in low-light conditions, generating enhanced targeted data
- Improved model performance by 20% and accelerated training cycles, enhancing generalizability and robustness

PROS Kernel Developer
Purdue ACM SIGBots
- Maintained and optimized the PROS software, ensuring a robust and high-performing platform for developers around the globe to efficiently code and optimize their competition robots with close-to-hardware control
- Employed control algorithms like Odometry for competition robots, improving motion model prediction accuracy