Xipeng Wang

wang4706@purdue.edu | 9494859150
West Lafayette, Indiana, 47906

Research Experience

Undergraduate Researcher <div align="right">May, 2023 – Present</div>

Jain Research Lab
- Developed a high-fidelity Level II driving simulator using Unreal Engine 5, supporting various driving scenarios set in a dynamic city environment
- Engineered a modular framework for easily building and loading experimental trials, granting researchers full creative control
- Enhanced realism by integrating a custom traffic system into Unreal's City Sample project, boosting the ecological validity of the research

Undergraduate Researcher <div align="right">Aug, 2022 – May, 2023</div>

Purdue Robomaster Team
- Developed an inhouse synthetic data generation pipeline for object detection in robotics competition
- Utilized Autodesk Maya to build photo-realistic virtual environments with randomizable parameters
- Improved model performance and generalizability in real-world environment

Undergraduate Researcher <div align="right">Aug, 2022 – May, 2023</div>

Elanco
- Developed a real-time computer vision based solution for pet identification and pose detection
- Designed and implemented a deep neural network using PyTorch for pose classification
- Employed a combination of transfer learning and hyperparameter tuning to optimize the performance of an existing object detection model, enabling accurate breed classification

Project/Other Experience

Lets-Ride Project <div align="right">Aug, 2022 – Dec, 2022</div>

Purdue University
- Full stack development for website hosting NFL match predictions and team statistics
- Developed interactive pages using React and Node.js
- Maintained team database using PostgreSQL

PROS Kernel Developer <div align="right">Aug, 2022 – Present</div>

Purdue ACM SIGBots
- Maintained PROS Kernel, a software used by VEX Robotics teams around the world
- Jointly coded autonomous mode for robots by implementing PID controller and Odometry

Undergraduate Teaching Assistant <div align="right">Jan, 2023 – May, 2023</div>

Purdue University
- UTA for CS252: Systems Programming, held lab sessions and office hours

Education

Purdue University <div align="right">May 2020 – Present</div>

Bachelor of Science: Computer Science, Game Development and Design <div align="right">*West Lafayette, IN*</div>
- Dean's List & Semester Honors   2020 – Present

JSerra Catholic High School <div align="right">Aug 2016 – May 2020</div>

High School Diploma <div align="right">*San Juan Capistrano, CA*</div>
- Dean's List & Honors Roll   2018 – 2020
- AP Scholar with Distinction Award
- President of VEX Robotics Club

Research Presentations

Wang, X., Jeevanandam, S., Williamson, M., & Jain, N. (2023, July 27). Cognitive State Modeling of Human Machine Interactions in a Level II Driving Simulator [Oral Presentation]. 2023 Summer Undergraduate Research Symposium, West Lafayette, IN, United States.

Wang, X., Xu, M., & Yu, G. (2023, April 13). Synthetic Data Generation for RoboMaster Armor Plate Detection [Oral Presentation]. 2023 Spring Undergraduate Research Conference, West Lafayette, IN, United States.

Chen, J., Kannan, A., Qi, B., Mahesh, A., Xu, M., **Wang, X.**, Chen, C. (2023, April 24). Computer Vision-Aided Pet Detection and Diagnostics [Poster Presentation]. The Data Mine Corporate Partners Symposium, 2023, West Lafayette, IN, United States.

Chen, R., Leight, M., **Wang, X.**, Xiao, Y., Xu, M., & Chung, M. (2022, November 14-21). Utilizing Data Augmentation to Train YoloV5 Object Detection for Armor Plates for Purdue RoboMaster Robotics Team [Poster Presentation]. 2022 Fall Undergraduate Research Expo, West Lafayette, IN, United States.

Specialized Skills

Programming Languages: C & C++, Java, Python, R, SQL, JavaScript, HTML, CSS
Tools: OpenCV, Tensorflow, PyTorch, Unix/Bash, Git, ROS, Latex, React, Node.js, Flask, Unreal Engine, Maya
Certificate: NVIDIA DLI for completion of Fundamentals of Deep Learning – 2022
Credential ID: 30a83509cf094595a6e3060f70fd1655