

# Xingpeng Sun

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## EDUCATION

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**Purdue University** **09/2023-05/2028**

*Doctor of Philosophy in Computer Science* West Lafayette, IN

- Research Interest: Large-Language Model, Robotics, Safe and Trustworthy Learning
- Advisor: Aniket Bera

**University of Wisconsin-Madison** **09/2019-12/2022**

*Bachelor of Science* Madison, WI

- Majors: Computer Science (Distinction in Major), Mathematics
- GPA: 3.97/4.00; Graduated with Distinctive Scholastic Achievement, Dean's List (6 semesters)

## PUBLICATION

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- **Xingpeng Sun**, Haoming Meng, Souradip Chakraborty, Amrit Singh Bedi, Aniket Bera  
*Beyond Text: Improving LLM's Decision Making for Robot Navigation via Vocal Cues*  
*arXiv preprint Under Review*
- Lu Ling, Yichen Sheng, Zhi Tu, Wentian Zhao, Cheng Xin, Kun Wan, Lantao Yu, Qianyu Guo, Zixun Yu, Yawen Lu, Xuanmao Li, **Xingpeng Sun**, Rohan Ashok, Aniruddha Mukherjee, Hao Kang, Xiangrui Kong, Gang Hua, Tianyi Zhang, Bedrich Benes, Aniket Bera  
DL3DV-10K: A Large-Scale Scene Dataset for Deep Learning-based 3D Vision  
*Preprint arXiv: 2312.16256; Under Review*

## UNDERGRADUATE RESEARCH EXPERIENCE

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**Center for Computational Biology and Bioinformatics, Indiana University School of Medicine**

**05/2022 - 08/2022**

*Data Science Intern* Indianapolis, IN

- Proposed statistical methods to discover the implication of brain cell DNA's functional 3'-untranslated region variants on substance use disorders.
- Deployed analytical data pipeline to transform 26,000+ DNA data into required structures.
- Built a multi-task statistical model to analyze both the gene expression level and novel variant's impact of brain cell sequences.

**Connected and Automated Vehicle Highway Group, UW-Madison**

**01/2022 - 05/2022**

*Undergraduate Research Assistant* Madison, WI

- Worked on applying the planning algorithms to work on the macroscopic and microscopic path planning, motion planning, and behavior planning.
- Implemented longitudinal and lateral vehicle system to control the throttle, brake, and steer of the connected automated vehicle (CAV) and directed the CAV to drive along a list of waypoints.
- Extracted and stored the location/speed/acceleration data of vehicles from the CARLA (open-source simulator for autonomous driving research) client server for object detection.
- Formulated sampling-based planning algorithms and map grid systems for collaborative automated driving in the CARLA environment.

## PROFESSIONAL PROJECTS

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**ActivityGo Web App**, computer science Capstone project @ UW-Madison, Epic **09/2021 – 12/2021**

- Built a web app that helps users in Madison area achieve their fitness goals by recommending activities based on their personal interests and health conditions; deployed the website via AWS EC2 virtual servers.
- Scraped and reformatted 100+ wellness activities from the greater Madison area using SQL.
- Used React to develop the SPA (single page application) with features including landing page, dashboard, rewards, and activity recommendation webpages.
- Implemented third-party log-in via OAuth2.0 to connect Epic's MyChart user and imported user health records into MySQL database.

## TEACHING EXPERIENCE

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**Graduate Teaching Assistant** **09/2023 – 05/2024**

*Department of Computer Science @ Purdue University* West Lafayette, IN

- Led a 4-hour lab session and 2-hour office hour per week to teach undergraduate students about data structure for CS176 Data Engineering in Python and CS 177 Programming with Multimedia Objects.

**Peer Mentor (Undergraduate Teaching Assistant)** **01/2021 – 05/2021**

*Department of Computer Science @ University of Wisconsin-Madison* Madison, WI

- Held 7 office hours per week and answered hundreds of Piazza questions for CS540 Introduction to Artificial Intelligence.
- Instructed 300+ undergraduate students to learn course materials and debug programming homework.

**Lecturer** **09/2019 – Present**

*Xi Xue Qian Wan Li Educational Institution* Online

- Shared personal study abroad experience with 200+ high school students from China.
- Offered quarterly small group talks to advise future STEM students on overseas studying and career choices.

## TECHNICAL SKILLS

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**Programming Language:** Python, Java, JavaScript, C, C++, MATLAB, SQL, HTML, Julia, R

**Frameworks:** TensorFlow, Keras, SciKit-learn, PyTorch, Pandas, OpenCV, React, Spring Boot

**Tools:** Git, Visual Studio, LaTeX, Jira, Figma, Agile, MySQL, AWS

## HONORS and AWARDS

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Purdue CS Graduate Student Teaching Assistantship, Recipient 2023

UW-Madison Ralph B. Abrams Scholarship, Recipient 2022

FIS InnovateIN48 Hackathon Student Edition, 3<sup>rd</sup> Place Team Captain 2021

UW-Madison Undergraduate Scholarship for Summer Study, Recipient 2020