

# Jianwei Ni

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## EDUCATION

University of Illinois Urbana-Champaign | IL, US

Aug. 2023-Present

Bachelor of Science in Statistics & Computer Science | Business Minor (In Progress)

Institution GPA: 4.00/4.00

Honors: Deans List of 2023 Fall and 2024 Spring, Franz Hohn and JP Nash Scholarship

Core Courses: Data Science in Python, Discrete Structure, Computer Science in Java, Computer Science in C++, Statistics and Probability, Intro to Information Science, Calculus III, Data Structures, Computer System, Linear Algebra, Statistics Modeling

## PROFESSIONAL EXPERIENCES

Carle Illinois College of Medicine | XR Developer | Champaign, IL

Aug. 2024-Present

- Developed mixed reality training apps on Vision Pro and Meta Quest 3 for medical and behavioral education
- Built spatial interfaces and 3D environments using Unreal Engine and Swift for immersive learning
- Collaborated with medical, law enforcement, and psychology teams to ensure training effectiveness

Atlas Copco Group | Data Analyst Intern | Shanghai, China

Jun. 2024-Aug. 2024

- Developed a Python tool to filter 10,000+ bids to ~100 high-potential leads, aiding sales targeting
- Upgraded OA systems to improve internal project workflows and efficiency
- Conducted in-depth research on the loading and unloading times of sold air compressors using Smartlink, assisting the sales team in optimizing the customer proposal model and refining their product recommendation algorithm, ultimately increasing existing customer retention and repurchase rates

University of Illinois Urbana-Champaign | CS124 Course Assistant | Champaign, IL

- Held weekly online office hours, offering students support and personalized guidance on homework and machine problems
- Used visual aids to clarify core CS concepts and promote collaborative learning

WVGL | Product Intern | Wuxi, China

Oct. 2021-Dec. 2022

- Contributed actively to a blue-green algae detection project that has been adopted successfully at the Taihu Nanquan Water Plant in Wuxi, utilizing Unreal Engine 4 to simulate the plant's operational environment
- Developed a user-friendly interface and implemented real-time navigation visualizations, incorporating advanced animation techniques to simulate the removal of blue-green algae
- Collaborated seamlessly with the project team throughout the development process, ensuring the technical requirements were met while optimizing system performance

## RESEARCHES AND PROJECTS

Carle Illinois College of Medicine | Lumbar Puncture Tutorial (Apple Vision Pro App) | Champaign, IL

Aug. 2024-Present

- Designed and developed a Vision Pro MR training app with gesture-based UI and spatially anchored 3D animations to guide procedural lumbar puncture
- Integrated a large language model-powered voice assistant, deployed via AWS backend, for interactive instruction and feedback
- Engineered multimodal user flows using Swift + RealityKit, ensuring precision, immersion, and instructional clarity
- Co-authored a UIST 2025 submission titled "Object-Tracking-Based Medical Simulation with AI and Mixed-Reality: A Use Case for Procedural Skills Training" based on this work (Under Review)

Carle Illinois College of Medicine | Empathy Training in VR (Meta Quest 3 App) | Champaign, IL

Aug. 2024-Present

- Designed and developed a Meta Quest 3 simulation in Unreal Engine 5 for training PTI officers in empathy-based de-escalation
- Designed a responsive digital human with behavior trees, facial animations, and adaptive dialogues to simulate suicidal crisis scenarios
- Collaborated with psychologists and trainers to ensure realism, emotional fidelity, and pedagogical effectiveness

University of Illinois Urbana-Champaign | Research Assistant | Champaign, IL

Nov. 2023-Jan. 2024

- Co-authored a VRST 2025 submission titled "Is My Dog Too Polite To Me?": Innovating Virtual Companionship Through Large Language Model-Powered Mixed Reality Virtual Pets (Under Review)
- Successfully recruited, managed, and conducted 20+ experiments with voluntary participants, followed by thorough documentation and comprehensive follow-up interviews to gather detailed data
- Executed rigorous data cleaning and annotation processes to ensure the accuracy and reliability of the collected information.
- Played a key role in shaping the "Findings" and "Related Work" sections, contributing valuable insights to enhance the overall quality of the paper

Machine Learning and Artificial Intelligence Startup Simulator | Research Assistant | Champaign, IL

Aug. 2023-Dec. 2023

- Simulated the role of a startup company with an AI product focused on enhancing the robustness of machine learning models in visual classification
- Conducted 20+ interviews with UIUC professors and researchers to understand user needs and analyzed results after each interview session to gather insights
- Constructed a website demo, providing an introduction, and summarizing the results of market and user studies of our AI product

## SKILLS

Language Skills: Mandarin (Native), English (Fluent), Japanese (Daily Conversation)

Programming Skills: Git, Amazon Web Service, Google Cloud Platform, MongoDB, MySQL, Java, C++, Python, R, Unreal Engine 4 and 5, Swift, VisionOS development, Solid understanding of game mechanics and design principles

AI Tools: Familiar with AI and can proficiently use multiple types of AI, such as ChatGPT and Stable Diffusion