Jiankun Wei

AI Researcher, Undergraduate Student

+1 (306) 201-9129 jiankun.wei@mail.utoronto.ca Toronto, ON, Canada
in/jiankun github.com/david-wei-01001 Personal Website

Profile

Dynamic, self-motivated professional with a robust foundation in Computer Science, complemented by a keen interest in Artificial Intelligence and Large Language Models. Boasts a track record of academic excellence, underscored by high university grades and a portfolio of diverse projects. Brings practical experience in software testing, including developing comprehensive test cases. Distinguished by exceptional communication abilities and a collaborative spirit. Eager to deepen expertise in AI through graduate studies, aiming to explore a broad spectrum of models and their applications.

Skills

- **Programming Languages:** Python, Java, C, C#, JavaScript, HTML5, CSS3, Matlab, R
- **Libraries & Tools:** Unity, PyTorch, TensorFlow, CUDA, React, Detectron 2, NumPy, SciPy
- **Software:** PowerPoint, FireBase, TestRail, Bridge, Kibana, Jira
- **Soft Skills:** Self-motivation, Presentation, Communication, Creative Problem-Solving, Teamwork, Adaptability

Research & Professional Experience

Researcher, *(MEDCVR Lab, University of Toronto)* **Toronto, ON, Canada** *01/2024 - 04/2024*

- Spearheaded the integration of Large Language Models (LLMs) for guiding robotics, achieving targeted object manipulation.
- Designed LLM prompts and deployed LLM within Unity using C#, significantly enhancing real-time application performance.
- Contributed to the LLMUnity package and led macOS testing, enhancing adoption and compatibility.
- Established a seamless remote connection to the Google Vertex AI cloud platform within Unity, demonstrating innovative problem-solving.
- Regularly prepared and presented comprehensive weekly PowerPoint updates, highlighting ongoing progress and key developments.

Research Assistant, *(AIT Lab, ETH Zürich)* **Remote** *07/2023 - 11/2023*

- Proficient with Detectron2 and torchvision's FasterRCNN libraries for advanced object detection and computer vision projects.
- Skilled in analyzing and interpreting source code, enhancing problem-solving and development efficiency.
- Responsible and efficient in managing GPU-accelerated server resources, ensuring fair use without compromising others' processes and maintaining optimal application performance.
- Highly self-motivated team contributor, driven to achieve collective goals and advance project initiatives.

QA Engineer, *(Uken Games Inc.)* **Remote** *05/2023 - 04/2024*

- Quickly and accurately develop comprehensive test cases while providing valuable reviews for peers' tests.
- Proficient in interpreting large specification documents, ensuring effective communication with product teams and developers.
- Well-versed in software testing workflows, including rinse requests, refdata requests, smoke tests, and prod sanity checks.
- Experienced in scripting automated test cases within Unity using the AltTester package, enhancing testing efficiency and coverage.
- Familiar with essential testing and monitoring tools such as TestRail, Bridge, and Kibana, facilitating thorough testing processes and insights.

Education

Computer Science Specialist *University of Toronto* **Toronto, Canada** *2020-PRESENT*

- Audited CSC2221: Theory of Distributed Computing
- Attended TCURC (Trinity College Undergraduate Research Conference)

Projects

LLM-Enhanced Robotics Manipulation *GitHub Repository* *01/2024 - 04/2024*

- Implemented adaptive control strategies in robotics by utilizing LLMs for image understanding, significantly enhancing real-time feedback and task execution efficiency.
- Developed an advanced teleoperation mechanism guided by LLMs, enabling precise, step-by-step robotic movements that enhance fault tolerance and operational flexibility.
- Seamlessly integrated LLMs into the robot's core control logic, transforming conventional robotic systems with enhanced decision-making capabilities and autonomous adjustments.

Crypto Care *GitHub Repository* *04/19/2023 - 04/20/2023*

- Spearheaded the database architecture for the CryptoCare project including user registration, secure login authentication, real-time wallet balance updates, and comprehensive documentation of donation activities.
- Pioneered the user interface design for key components such as the complete login page, extensive sections of the wallet interface, and crucial dashboard elements including the donation history and total donation displays.
- Collaborate with teammates to implement MetaMask Ethereum transactions and balance checks on the Sepolia testnet.
- Rapidly mastered JavaScript and React, demonstrating a strong capacity for learning and applying new technologies to deliver a sophisticated and functional application within a 30-hour development cycle, with minimal prior experience.

Multi-Style Transfer *GitHub Repository* *01/2023 - 04/2023*

- Implemented multi-style transfer on photographs utilizing both CycleGAN and Neural Style Transfer (NST) techniques to infuse artistic styles.
- Conducted a thorough comparison of the two methodologies, showcasing differences in style application through detailed visuals and performance benchmarks (SSIM, FID, Style Consistency).
- Demonstrated proficiency in PyTorch and TensorFlow frameworks, alongside a deep understanding of the CycleGAN architecture.

Collaborative Community Software *GitHub Repository* *09/2021 - 12/2021*

- Engineered an online platform to foster a learning community for sharing educational materials, employing rigorous software development methodologies.
- Utilized test-driven design to ensure reliability and maintainability, applied various design patterns to solve complex problems effectively and implemented comprehensive unit testing to guarantee code quality.
- Managed the project's evolution using version control, facilitating smooth collaboration within the team and ensuring efficient progress tracking and code integration.

Awards

6T5 Scholarship for High Academic Achievement

- Award for the 2021-2022 Academic Session.

Drew Thompson Scholarship for High Academic Achievement

- Award for the 2021-2022 Academic Session.
- Award for the 2022-2023 Academic Session.

Dean's List Scholar in the Faculty of Art & Science

- Award for the 2021-2022 Academic Session.
- Award for the 2022-2023 Academic Session.

Languages

- **Mandrin** [Native]
- **English** [Fluent] - Learning
- **French** [Basic] - Learning