Jiankun Wei

AI Researcher, Undergraduate Student

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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#, HTML, CSS, Matlab, R
- **Libraries & Tools:** Unity, PyTorch, TensorFlow, CUDA, Detectron 2, NumPy, SciPy
- **Software:** PowerPoint, 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.

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