Kaidong Chai

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EDUCATION

University of Massachusetts Amherst   **Amherst, MA**

Master of Science in Computer Science, Data Science Concentration   Sep 2022 – May 2024
Bachelor of Science in Computer Science Cum Laude   Sep 2018 – May 2022
Bachelor of Science in Mathematics Cum Laude   GPA: 3.96 / 4.0

Awards: Bay State Fellowship (2022-2024), Dean's List (2018-2022), Chancellor's Scholarship (2018-2022)

EXPERIENCE

Research Assistant   **Dec 2021 – Present**

MOSAIC Lab, Halıcıoğlu Data Science Institute, University of California San Diego   *San Diego, CA*

- Designed and implemented sophisticated machine learning models for computer vision applications, focusing on DVS (Dynamic Vision Sensor) camera technology and human pose estimation.
- Employed robust hypothesis testing and detailed quantitative analysis to validate models, achieving a 3x improvement in accuracy and computational efficiency over existing state-of-the-art solution.
- Streamlined and automated data pipelines for a synthetic dataset, reducing data size by 60% and cutting processing time by 75%.
- Implemented distributed storage strategies and leveraged Kubernetes orchestration, boosting scalability and efficiency in a complex multi-node setup.
- Authored research papers in top-tier journals, detailing significant advancements in models, and contributed to a patent filing, demonstrating practical applications and innovation in the field.

Lead Software Developer, MAGI Project   **Sep 2021 – Present**

CICS Syslab, Manning College of Information & Computer Sciences, University of Massachusetts Amherst   *Amherst, MA*

- Initiated and led the development of MAGI project, creating a Python-based auto-grader framework supporting C/C++, Python, and JavaScript/TypeScript.
- Enhanced MAGI by integrating a user-friendly graphical interface and distributing it as a scalable Docker image, augmenting accessibility and performance.
- Significantly escalated developer efficacy by 80% and garnered positive feedback through continuous analysis and integration of user insights, elevating MAGI's functionality and UX.
- Mentored a team of undergraduate students, guiding their contributions and cultivating a collaborative environment, which led to improved project outcomes.

Teaching Assistant   **Feb 2021 – Present**

Manning College of Information & Computer Sciences, University of Massachusetts Amherst   *Amherst, MA*

- Directed academic support for 1000+ CS students in collaboration with 10 faculty, enhancing learning through office hours and development of supplemental materials.
- Organized and led lab sessions focused on programming languages (C/C++, Rust, Python) and Linux, offering instructional support that streamlined student learning.
- Awarded the Outstanding UCA Award for exceptional contributions to student learning and mentorship, recognizing exceptional educational impact.

Software Engineer Intern   **Jun 2021 – Aug 2021**

Interactive Brokers   *Greenwich, CT*

- Spearheaded the design and development of a new messaging and clearing module for the low-latency C++ backend, catering to a high-volume trading platform with 2+ million daily transactions, emphasizing efficiency and reliability.
- Integrated Apache Kafka to boost platform architecture, enabling real-time data processing and scalability, underpinned by exhaustive testing for robustness.
- Successfully deployed the module on global servers, earning accolades for its performance and substantial positive impact on platform performance.

SKILLS

Programming Languages: C/C++, Rust, Python, C#, Java, JavaScript, TypeScript, Go, SQL
Technical Toolsets: Version Control (Git, SVN, CVS), Docker, Kubernetes, Unix (Linux, BSD), Shell Script, Cloud Computing (AWS, Azure, Cloudflare, Google Cloud Platform), Virtual Machine (VMware, Hyper-V)
Software Engineering: Full Stack Development, Agile Methodologies, CI/CD, Design & Implementation & Testing
Data Analytics: Data Mining & Visualization, Machine Learning Modelling, Mathematical Programming (R, MATLAB)
Soft Skills: Self-Motivated, Detail-Oriented, Team Collaboration, Time Management