Jirayu Burapacheep

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Education

Stanford University, M.S. in Computer Science (AI Specialization) — 2023 - 2025 (Expected)

University of Wisconsin-Madison, B.S. in Computer Science and Data Science — GPA: 3.9, 2019 - 2023

- **Relevant Coursework**: Algorithms, Operating Systems, Database Systems, Optimization, Multivariable Calculus, Information Security, Big Data, Quantum Algorithms (Graduate level)
- **Online Coursework**: Deep Learning Specialization by deeplearning.ai (Coursera)

Honors and Awards

ICPC 2020 World Finals - International Collegiate Programming Contest, High Honor Award — Oct 2021

- Ranked 17th in ICPC 2020 World Finals (4th place among all North American teams)
- Ranked 1st in ICPC North Central North American Regional Contest 2020

IOI 2018 - International Olympiad in Informatics, Bronze Medalist (Ranked 119/331) — Sep 2018

APIO 2018 - Asia-Pacific Informatics Olympiad, Silver Medalist (Ranked 24/173) — May 2018

Work Experiences

Google, Software Engineer Intern — May 2022 - Aug 2022

- Explored and implemented a method to improve Google Recipes Search results ranking by utilizing rating score, thumbnail image quality, and other signals
- Improved recipe grouping with the majority of users' historical query refinements and achieved positive metrics feedback from human evaluation

Data Wow Co., Ltd., Machine Learning Engineer Intern — Jun 2021 - Aug 2021

- Reduced 83% of a human workload in ID card spam checking by switching to an AI solution to recognize similar cards and designing a backend system to self-maintain a card database

Academic Experiences

Undergraduate Research Assistant — Sep 2021 - Present

Research Group under Professor Sharon Li, Department of Computer Science, UW-Madison

1. Explored safety aspects of large language models, emphasizing alignment and steering model decoding through reward models.
2. Study and perform experiments on energy-based out-of-distribution detection in hyperspherical embedding space learned using contrastive learning, which outperforms current state-of-the-art methods.
3. Auditing study to examine how GPT-3 responded to different sub-populations on crucial science and social topics: climate change and the Black Lives Matter (BLM) movement.

Student Grader for a Graduate Level Course, Department of Computer Science, UW-Madison — Jan 2023 - May 2023

- Grade assignments for COMP SCI 880: Quantum Algorithms course at UW-Madison
- Provide constructive feedback to students on technical work related to assignments

Guest Lecturer, UW-Madison ICPC Organization — Apr 2022 - Oct 2022

- Lead and facilitate discussion on string matching, advanced data structures, centroid decomposition, and advanced graph algorithms.

Selected Personal Projects

Wisc-course-alert — Apr 2021 - Apr 2022

- Request course status from the UW-Madison enrollment website via Rest API
- Manage users watching list databases and notify them when the courses become available

Parrot.Ai — Mar 2022 - Apr 2022

- Developed a platform that allows users with low literacy to fill out forms without having to read or write to improve essential services accessibility using ReactJS and TailwindCSS

Technical Skills: C++, Python, R, Java, Javascript, PyTorch, HuggingFace, Keras, Detectron2, DeepSpeed, Docker, Kafka, HDFS, Spark, ReactJS, NodeJS, Flask, Celery, AWS, Google Cloud Platform, PostgreSQL, MongoDB, Elasticsearch