Sukai Huang

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EDUCATION

Doctor of Philosophy - Engineering and IT Jul 2021 - Present
The University of Melbourne
- Thesis: Integrating Natural Language for Sequential Decision Problems
- Melbourne Research Scholarship for PhD

Bachelor of Advanced Computing (Honours) Jul 2017 - Jul 2021
Australian National University
- Specialized in Machine Learning Systems
- Conducted research on Procedural Content Generation (PCG) using Generative Adversarial Networks
- First Class Honours; Chancellor's Letters of Commendation 2018, 2020; ANU Dean's Award 2019; GPA: 6.84 / 7.00

EXPERIENCE

Machine Learning Engineer May 2022 - Nov 2023
FINVISE London, Remote Contract
- Implemented an Automated Valuation Model (AVM), enhancing property valuation accuracy to exceed 80%
- Automated data collection and preprocessing pipeline using multiprocessing Selenium and Pandas, efficiently handling over 20 million multimodal property datasets (textual, numerical, and categorical)
- Proposed the use of a Masked Autoencoder (MAE) as the model backbone, addressing the challenge of approximately 20% missing data in the dataset through advanced mask learning techniques
- Collaborated with the team to manage project progress on Jira, while implementing Kedro pipelines to ensure reproducible workflows and monitoring training processes and model performance metrics using Wandb and Prefect

Software Developer Oct 2023 - Nov 2023
Self-initiated Web App Project, https://banpick.win/
- Designed and constructed "BanPick", a dynamic game drafting tool tailored for DOTA2 enthusiasts, utilizing a parallel alpha-beta pruning algorithm using numpy, enhancing strategic planning and game experience
- Developed the app's front and back-end, ensuring efficient real-time data querying from a GraphQL database and integrated SQLite for reliable local data storage and management

Tutor Feb 2020 - Jul 2021
Australian National University, Canberra, ACT
- Planned and delivered interactive tutorials between 2017 and 2020, teaching Python and Data Management

TECHNICAL SKILLS

- Programming Languages: proficient in Python, with expertise in the Pytorch, Selenium, Numpy, Pandas, and Sklearn, complemented by relevant tools like Git, Hydra, Prefect, Kedro and Wandb
- Past experience with Java, SQL, C++ and Haskell

AWARDS AND RECOGNITIONS

- AAAI 2025 Scholarship, Association for the Advancement of Artificial Intelligence
- Two oral presentations at Workshop on Planning in the Era of LLMs (LM4Plan @ AAAI 2025)
- Winner in the Aesthetic Track of the Angry Birds Level Generation Competition at IEEE COG'20
- Researcher in ANU Summer Scholarship Program 2019, working on emotion recognition model

PUBLICATIONS

- Huang, Sukai, Nir Lipovetzky, and Trevor Cohn. "Planning in the Dark: LLM-Symbolic Planning Pipeline without Experts." Thirty-Ninth AAAI Conference on Artificial Intelligence
- Huang, Sukai, Nir Lipovetzky, and Trevor Cohn. "Chasing Progress, Not Perfection: Revisiting Strategies for End-to-End LLM Plan Generation." Workshop on Planning in the Era of LLMs @ AAAI'25
- Huang, Sukai, Nir Lipovetzky, and Trevor Cohn. "The Dark Side of Rich Rewards: Understanding and Mitigating Noise in VLM Rewards." under review at IJCNN 25
- Huang, Sukai, Nir Lipovetzky, and Trevor Cohn. "A Reminder of its Brittleness: Language Reward Shaping May Hinder Learning for Instruction Following Agents." arXiv preprint arXiv:2305.16621 (2023)