KINAN MARTIN

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EDUCATION

Massachusetts Institute of Technology

Master of Engineering in Computer Science and Cognition Bachelor of Science in Computer Science and Cognition September 2019 - May 2024 GPA: 4.8 / 5.0 GPA: 4.9 / 5.0

EXPERIENCE

Artificial Intelligence Researcher

June 2024 - present

Reazon Holdings

Tokyo, Japan

- Led team of four researchers and interns in development of NLP solutions for product integration
- Designed and developed full stack of React app for real-time transcription & annotation of bilingual meetings
- Refactored ASR model's VAD logic to increase transcript accuracy by 21%; optimized LLM prompt structure to reduce output latency by 80%
- Released <u>ReazonSpeech-k2-v2</u>, an open-source Japanese ASR model that outperforms OpenAI's Whisper large-v3 with over 10x fewer parameters
- Developing and training a Vision-Language-Action (VLA) model to command the OpenArm two-arm robotic embodiment using natural language and visual inputs

Artificial Intelligence Research Intern

June 2023 - August 2023

Fox conn

Taipei, Taiwan

- Spearheaded project using multimodal vision-language models, computer vision models, and LLMs for a smart driving assistant
- Designed and implemented novel model architecture and dataset generation pipeline
- Jointly submitted US and Taiwanese patents for the above

Student Researcher

September 2022 - May 2024

MIT Computational Psycholinguistics Lab

Cambridge, MA

- Completed master's thesis on the relationship between contextual predictability and phonetic reduction
- Designed and implemented novel probing paradigm for self-supervised spoken language models
- Used Facebook Al's fairseq to quantify how models incl. HuBERT exhibit human-like processing behavior
- Published <u>first-author paper</u> accepted to int'l spoken language processing conference <u>INTERSPEECH 2023</u>

Teaching Assistant

September 2022 - May 2024

MIT (6.101 Fundamentals of Programming)

Cambridge, MA

- Taught 600+ students by helping solve/debug assignments and fostered good coding practices in weekly labs
- Led weekly staff meetings and taught 30+ fellow lab assistant staff best practices for helping students

Student Research Intern

June 2022 - August 2022

University of Chile

Santiago, Chile

- Co-authored paper on training word embeddings for Spanish clinical use published in int'l journal Frontiers
- Implemented NLP models for int'l computational linguistics competition (SMM4H 2022: SocialDISNER): scored 2nd place on eval metric. Co-authored corresponding paper published by *ACL*.

SELECTED PROJECTS

Problem solving with Large Language Models via context augmentation

April 2023

Devised and implemented a set of LLM context augmentation methods to improve performance at problem solving

Speech to speech translation model

May 2022

Built novel speech to speech translation pipeline, wrote corresponding paper describing methodology

Grapheme to phoneme RNN model

May 2021

Built Pytorch LSTM models to predict the pronunciation of novel words given their spellings for arbitrary languages

SKILLS AND ACHIEVEMENTS

Foreign Languages Coding Languages Software & Tools Japanese, French, Russian, Chinese, Arabic, Spanish; learning Korean, Vietnamese, Polish, and more Python, JavaScript, TypeScript, HTML/CSS, *nix/Bash, SQL, MATLAB, R, LaTeX

Git, React.js, AWS, GCP, Hugging Face, PyTorch, Tensorflow, wandb, Pandas, slurm, NLTK, ROS 2

- Passed the highest level of the international Japanese Language Proficiency Test (JLPT N1) in the 96th percentile (2017).
- 1st place in Russian Poetry Recitation, 2nd place in Speech Contest at New England Olympiada of Spoken Russian at Harvard University (2020).