KASRA LEKAN

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EDUCATION

University of Virginia (UVA), *Full-time student*   *B.A. 2023, MCS 2024*

B.A. Computer Science & Financial Economics; Master of Computer Science

- 4.0 GPA; Judith T. and Eli W. Tullis Jefferson Scholar, Echols Scholar
- *Coursework*: Natural Language Processing, Reinforcement Learning, Generative AI, Calculus, Linear Algebra, Digital Signals Processing, Algorithms, Cyber-Physical Systems, Software Analysis, Big Data Systems (Apache Spark, Ray, Dask), et al.

St. Anne's College - University of Oxford, *Visiting (Exchange) Student*   *Michaelmas 2022*

- *Coursework*: Quantum Processes and Computation, Databases, Machine Learning

PROFESSIONAL EXPERIENCE

CAH Learning Lab (UC Berkeley), *NLP Researcher & Full-stack Developer*   *May 2021 – Present*

- Spearhead cross-campus development of NLP course-recommendation system (askoski.berkeley.edu)
- Direct back-end development (Python, SQL, Airflow, AngularJS) and sprint planning for 14 engineer team
- (NeurIPS 2023 GAIED, AAAI 2024 AI4ED) Designed an NLP feature: conversational recommendations for major selection advice
- Migrating all legacy model code from TensorFlow to PyTorch

Information and Language Processing Lab (UVA), *NLP Researcher*   *Jan 2024 – May 2024*

- Led mechanistic interpretability research with Distill-GPT-2 (42m param.) and LLM evaluation with GPT-4
- Generated PyTorch model code based on several papers without reproduction repositories
- Tuned ~10 hyperparameters to optimize the model training objective and final interpretability results

Bain & Co., *Associate Consultant Intern*   *June 2023 – August 2023*

- Diligenced 4 B2B SaaS companies, interviewing 50+ industry experts, and modelling multi-geo. markets
- Leveraged LLMs to improve efficiency of standard tasks, e.g. data classification, text summarization
- Automated several common tasks which saved the team ~5 hours per week of working time

Souq.gg, *Contract Full-stack Developer and Data Engineer*   *June 2021- January 2022*

- Wrote PostgreSQL queries and implement ETLs for ~10 million rows of data
- Improved visualization readability and color accessibility of ad impressions data
- Integrated AWS data with Go backend and React frontend to enable better monetization

NOTABLE OUTSIDE PROJECTS

Conversational Language Learning Website, *Personal Project*   *February 2024 – Present*

- Combine 5 machine learning models with NextJS to facilitate language learning through conversations with an AI
- Iterating on automated learning progression and pronunciation-checker model

Reel Recommendations, *Class Project*   *February 2024 – May 2024*

- Used offline reinforcement learning and language modeling to generate personalized movie recommendations
- Implemented DeepFM, a framework for converting sparse features to dense embeddings in PyTorch

NERVE Network Monitoring, *Class Project*   *March 2023 – May 2023*

- Combined a Raspberry Pi and Kismet (open-source network sniffing tool) to collect metadata at several locations
- Performed analyses and generated visualizations of data for threat analysis

SKILLS, PUBLICATIONS, & INTERESTS

Skills: Full-stack development (NextJS, React, AngularJS, Flask, Go, SQL), Machine Learning (PyTorch, TensorFlow), Deployment (AWS, Docker), Big Data Parallelization (Apache Spark, Ray, Dask)

Publications: AAAI 2024 AI for Education, NeurIPS 2023 Generative AI in Education (GAIED) Workshop Papers

Interests: Latin Dance, Brazilian Jiu-Jitsu, Sci-Fi, Distance Running, Theatre, Trumpet (Jazz)