Ashkan Farhangi

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Objective: As a committed Machine Learning Engineer with 5+ years of work experience in various industries, my goal is to leverage my technical expertise and strategic vision to solve complex problems and further the mission of enhancing AI-powered applications.

Work Experiences

- **Machine Learning Engineer**
  Medbrain *Aug 2021 - Oct 2023*
  - Led the development of a patented Large Language Model (LLM), leading to a 12.4% increase in the NLP accuracy of the clinical evaluation app, resulting in a 50% increase in user base [1].
  - Worked closely with a diverse team of engineers, business analysts, medical educators, and researchers.
  - Organized regular data review meetings to present findings and insights in a non-technical manner. Provided insights through XGBoost and analytical modeling.
  - Automated the technical development of a novel text mining method resulting in a 34% reduction in data processing time.
- **Machine Learning Engineer**
  Meta (Facebook) - Collaboration *May 2022 - Aug 2023*
  - Deployed the first customer race and demographic analysis model for Instagram with complete privacy [2].
  - Collaborated with cross-functional teams from Meta and research institutes, resulted in the success launch of the product in a quarter.
  - Led the deployment of the dockerized model and integrated it to existing microservices architecture using Kubernetes on GCP. This allowed timely processing of computation requests while ensuring data persistence for the NoSQL database.
- **Machine Learning Engineer**
  Real-time & Intelligent Systems Lab *Jun 2019 - Aug 2021*
  - Implemented an innovative time series analysis and forecasting model with anomaly awareness, leading to 7% more accuracy than baseline. Automated the maximal confidence in forecasting [3].
  - Pioneered the development of a novel framework for NLP & text classification tasks. Resulted in 25% the accuracy increase compared to latest Langauge Models [4].
  - Developed an explainable AI forecasting model for revenue and demand prediction. Improving decision-making and resource allocation during the event of health crisis in U.S. while following state policies [5].
  - Developed a novel method for sequential data analysis of I/O schedule prediction that enhances system efficiency. Reached 78% accuracy for real-world storage systems—6% increase compared to SOTA [6].

Education

- **PhD Computer Engineering** Orlando, USA
  University of Central Florida *2019 – 2023*
- **BS Electrical Engineering** Shiraz, Iran
  Shiraz University *2011 – 2016*

Skills

- LLM: GenAI, prompt engineering, fine-tuning
- Programming: Python, C#, SQL
- Cloud: GCP, AWS, Azure
- AI/ML Frameworks: PyTorch, Ray, Scikit-Learn, Numpy, XGBoost
- Big Data: Spark, Hadoop, Docker, Kubernetes
- Database Systems: SQL, MongoDB

Publications

- Journal Articles (ML):
  - 2023, DMKD Springer: **Ashkan Farhangi**, Jiang Bian, Arthur Huang, Haoyi Xiong, Jun Wang, and Zhishan Guo. AA-forecast: anomaly-aware forecast for extreme events. Data Mining and Knowledge Discovery.
  - 2022, IJHM Elsevier: Arthur Huang, Efren de la Mora Velasco, **Ashkan Farhangi**, Anil Bilgihan, and Melissa Farboudi Jahromi. Leveraging data analytics to understand the relationship between restaurants' safety violations and COVID-19 transmission. International Journal of Hospitality Management.
- Conferences (ML):
  - 2022, PAKDD: **Ashkan Farhangi**, Ning Sui, Nan Hua, Haiyan Bai, Arthur Huang, and Zhishan Guo. Protoformer: Embedding Prototypes for Transformers. In Pacific-Asia Conference on Knowledge Discovery and Data Mining, pages 447–458. Springer, 2022.
  - 2022, HICSS: **Ashkan Farhangi (Best Paper Awardee)** , Arthur Huang, and Zhishan Guo. A novel deep learning model for hotel demand and revenue prediction amid COVID-19. In Proceedings of the 55th Hawaii International Conference on System Sciences.
  - 2019, IEEE RTSS: **Ashkan Farhangi**, Jiang Bian, Jun Wang, and Zhishan Guo. Work-in-progress: A deep learning strategy for i/o scheduling in storage systems. In 2019 IEEE Real-Time Systems Symposium (RTSS).