Bashir Rastegar Panah

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About Me

I am an applied scientist with hands-on experience in developing data-driven solutions to problems in natural language processing, genomics, recommender systems, and AI observability. I have the experience of leading research projects in both a start-up environment and academia. Recently, my work has been focused on safety and reliability of large language models and generative ML models.

Experiences

- **Fiddler AI**, Palo Alto, CA ..... Nov 2021 - present
  Data Scientist
  Developed auditing tools and safety metrics for large language models.
  Designed and implemented tools for measuring distributional shifts in unstructured data.
  Designed and prototyped anomaly detection algorithms for text and image embeddings.
  Developed a report generator library for the Fiddler platform.
- **Boston University**, Boston, MA ..... Sept 2014 - Aug 2021
  Graduate Research Assistant
  Developed new tools for enhancing fairness, privacy, and explainability of ML algorithms.
  Developed data mining and graph mining techniques for analyzing single-cell genomics data.
- **Max Planck Institute SWS**, Saarbrücken, Germany ..... Feb 2019 - May 2019
  Internship
  Designed a multi-armed bandit framework for auditing data minimization in ML models.
- **Fraunhofer IAIS**, Sankt Augustin, Germany ..... Sept 2012 - May 2014
  Machine Learning Engineer
  Developed machine learning solutions for analyzing user preferences in online recipe platforms.
- **University of Bonn**, Germany ..... Sept 2011 - Jan 2012
  Student Research Assistant at Signal Processing Department
  Implemented matrix-factorization methods for detecting auditory objects in audio signals.

Education

- **Boston University,** Ph.D. Computer Science ..... Boston, MA, 2021
- **University of Bonn,** M.Sc. Computer Science ..... Bonn, Germany, 2013
- **University of Isfahan,** B.Sc. Software Engineering ..... Isfahan, Iran, 2010

Patent

"System and Method for Data Drift Detection to Improve Data Integrity for Data within a Database"
US Patent No. 11,836,163 (Dec 2023)

Selected Publications

- "Auditing Black-box Prediction Models for Data Minimization Compliance" **NeurIPS 2021**
- "Single-cell transcriptional networks in differentiating preadipocytes suggest drivers associated with tissue heterogeneity" ***Nature Communications (2020)***
- "Fair Inputs and Fair Outputs: The Incompatibility of Fairness in Privacy and Accuracy" **UMAP 2020**
- "Fighting Fire with Fire: Using Antidote Data to Improve Polarization and Fairness of Recommender Systems" **WSDM 2019**
- "Exploring Explanations for Matrix Factorization Recommender Systems" **FATREC 2017**
- "Collective Attention to Social Media Evolves According to Diffusion Models" ***WWW 2014***
- "The Weibull as a Model of Shortest Path Distributions in Random Networks" ***MLG 2013***