Yousef Fekri Dabanloo

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SUMMARY

Driven computer scientist with a strong foundation in Mathematics and Computer Science, passionate about applying advanced problem-solving, programming, and machine learning skills. A proactive learner eager to contribute to real-world projects in a collaborative, fast-paced environment.

EDUCATION

Ph.D. in Computer Science
University of Georgia, Athens, GA, USA   2021 - current

M.S. in Applied Mathematics
Sharif University of Technology   2011 - 2013

B.S. in Mathematics
Semnan University   2007 - 2011

SKILLS

Technical Skills

- Programming Languages: Python, Java, Scala, C
- Machine Learning Algorithms and Models
- Deep Learning Techniques (CNN, RNN, GANs)
- LLM Development and Integration
- Time Series Forecasting
- Computer Vision
- Data Cleaning and Preprocessing
- Predictive Modeling
- Algorithm Optimization
- Data Visualization
- Cloud Platforms (AWS, Google Cloud)

Interpersonal Skills

- Collaborative Teamwork
- Communication
- Problem-Solving
- Project Management
- Research and Development
- Training and Mentorship
- Stakeholder Communication
- Technical Writing
- Software Engineering Principles

WORK EXPERIENCE

Software Management *University of Georgia, Athens, GA, USA*   *2022 - 2023*

- Developed a cinema ticket website, managing both front-end and back-end development while ensuring efficient database management and data flow.
- Utilized software management techniques to oversee project progress, manage timelines, and ensure the successful delivery of the final product.

Teaching *University of Georgia, Athens, GA, USA*   *2021 - current*

- Assisted in teaching undergraduate courses in Computer Science (Python, Java, Algorithms), helping students improve their problem-solving and coding skills through one-on-one support and mentorship.
- Conducted lectures and prepared course materials for Mathematics (Mathematics, Algebra), ensuring students understood key concepts and providing personalized guidance.

Selected Projects

Symbolic Regression Model for Time Series Forecasting

PhD Research at University of Georgia, Athens, GA   *Ongoing*

- Developing a scalable symbolic regression model to improve interpretability in time series forecasting, addressing the complexity of equation discovery.

- Testing the model on real-world datasets to balance accuracy and interpretability, focusing on applications in scientific discovery.

Attention-Based Time Series Models in Scala

PhD Research at University of Georgia, Athens, GA   *Ongoing*

- Implemented Transformers in Scala, achieving functional parity with PyTorch for self-attention and multi-head attention mechanisms.

- Expanding the model for time series analysis with attention-based architectures to enhance prediction accuracy.

Multi-Model Integrated Sentence Similarity Framework

Course Project at University of Georgia, Athens, GA   *2023*

- Developed a multi-model framework for improving sentence similarity assessments in NLP, leveraging the COCO dataset for robust training.

- Enhanced computational efficiency and accuracy by integrating advanced deep learning techniques.

Fake Image Region Detection in Deepfake Images

Course Project at University of Georgia, Athens, GA   *2023*

- Designed and trained a deep learning model to detect and describe fake regions in facial images, focusing on localization and descriptive analysis.

- Utilized PSCC-Net and HRNet architectures to improve accuracy in deepfake image detection.

ARMA Modeling for Estimating Lives Saved by COVID-19 Vaccination

Course Project at University of Georgia, Athens, GA   *2023*

- Applied an ARMA model to 2020 COVID-19 mortality data, estimating the impact of vaccination on lives saved in 2021.

- Optimized model parameters using RMSE to provide accurate, data-driven insights.

Selected Publications

[1] Akbar Mahmoodi Rishakani, Yousef Fekri Dabanloo, Seyed Mojtaba Dehnavi, Mohammad Reza Mirzaee Shamsabad, and Nasour Bagheri. "A note on the construction of lightweight cyclic MDS matrices". In: *International Journal of Network Security* 21.2 (2019), pp. 269–274.

[2] A. M. Rishakani, S. M. Dehnavi, Y. F. Dabanloo, and H. Maimani. "Construction of MDS matrices from minors of an MDS matrix". In: *12th International Society of Cryptology Conference on Information Security and Cryptology (ISCISC)*. 2015, pp. 1–6.

[3] S. M. Dehnavi, M. R. Mirzaee Shamsabad, A. Mahmoodi Rishakani, and Y. Fekri Dabanloo. "Efficient MDS diffusion layers through decomposition of matrices". In: *Cryptology ePrint Archive* (2015). Paper 2015/775. URL: https://eprint.iacr.org/2015/775.