Ali Nemati

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EDUCATION

- **University of Wisconsin Milwaukee**
  PhD. Biomedical Health Informatics *Jan. 2022 – Jun. 2026*
  Thesis: Using BERT to understand clinical trial eligibility criteria (free-text criteria) and generate judgment of patients' eligibility for trials

- **University of Washington**
  Master of Science in Computer Science and Systems *Sep. 2017 – Jun. 2019*
  Thesis: Brain Tumor Image Segmentation via Transfer Learning.

FOCUS AREA

- Knowledge of advanced statistical techniques and concepts (regression, properties of distributions, statistical tests and proper usage, etc.) and experience with applications.
- Knowledge of a variety of machine learning techniques (clustering, decision tree learning, artificial neural networks, etc.) and their real-world advantages/drawbacks.
- Running language models to do tasks question answering, fill-mask, text classification and summarization
- Implementing machine learning techniques and optimization methods (e.g., scalable clustering and data summarization)
- Applying Statistical metrics of machine learning model (e.g., proving guarantees on performance)
- Generative modeling and neural networks (e.g., Feature selection and feature extraction)
- Visualize partitioning and approximation algorithms to represent the big data (e.g., spectral clustering and related methods)
- Randomized and reduced numerical linear algebra (e.g., randomized SVD and PCA)
- Exploring imbalanced and extract pattern of data (e.g., improving robustness and performance of existing methods)

EXPERIENCE

- **Medical College of Wisconsin** Wauwatosa , WI, USA
  Data Engineer *Nov. 2020 - May 2022*
  Independently designs, implements, develops, maintains complex, and integrates data sources consistent with business requirements and processes on DataShare.

  - The diagnosis of Covid 19 and the need to stay in the hospital utilizing the clinical blood draw may be found at 134 hospitals throughout the state of Wisconsin.
  - Participating with REDRIRCT team as a data analysis to explore data to the team
  - Biweekly interpreting, analyzing, and reporting Homicides and Nonfatal Shooting Dashboards Link
  - Daily interpreting, analyzing, and reporting Milwaukee County COVID-19 Daily Data
  - DataShare REDIRECT Pilot Data Integration

- **Kohls Innovation Center** Menomonee Falls, WI, USA
  Data Scientist *Jan. 2020 - July. 2020*
  - Safety Stock and Top Store Projects: Created Python Scripts to automate pulling data from different Data sources for data-analysis.

  Implemented Machine Learning models and application that predicts and recommends levels of safety-stock and top store based on the percentage chance of an order being canceled.

- **University of Washington** Tacoma, USA
  Student Instructor and Lab Assistant *Sep. 2018 - Jun 2019*
  - Center for Business Analytics: Responsible for teaching students the various business tools used for Analytics such as **Tableau, Power BI, and AWS Databricks**.

- **Auckland University of Technology** Auckland , New Zealand
  Research collaboration *Jan. 2017 - Dec 2019*
  - Researching on Glaucoma Disease: The role is cleaning, wrangling data, interpret data and build models using a combination of machine learning algorithms and data. Collaborating with Tennessee University in order to prove our results to publish our paper.

PROJECTS

- **Chronic Kidney Disease can be affected by high blood pressure :** The relationship between High Blood Pressure and Chronic Kidney Disease is investigated by using statistical interpretation and multiple linear regression. Shiny App Link
- **2022 BC Liquor store prices Shiny App** Link
- **Prediction of Loan Default:** Using Tune voter traditional machine learning and Artificial neural network models Link

PUBLICATIONS

2021 Norouzifard, M., **Nemati, A.**, Mollaee, S.,Gholamhosseini H., Black, J., Thompson B, and Turuwhenua J,. A Comparison of Approaches for Synchronizing Events in Video Streams Using Audio. Submitted THE INTERNATIONAL SYMPOSIUM ON GEOMETRY AND VISION. Link

2019 Norouzifard, M., **Nemati, A.**, Klette, R., GholamHosseini, H., Nouri-Mahdavi, K., & Yousefi, S. (2019). A hybrid machine learning model to detect glaucoma using retinal nerve fiber layer thickness measurements. Investigative Ophthalmology & Visual Science, 60(9), 3924-3924. Link

2019 Norouzifard, M., **Nemati, A.**, Klette, R., GholamHosseini, H., Nouri-Mahdavi, K., & Yousefi, S. (2019). A Fused Pattern Recognition Model to Detect Glaucoma Using Retinal Nerve Fiber Layer Thickness Measurements, Image and Video Technology (pp.1-12)(2019). Link

2019 Norouzifard, M., **Nemati, A.**, Klette, R., GholamHossieni, H., Nouri-Mahdavi, K., & Yousefi, S. (2019). Identification of clinically relevant glaucoma biomarkers on fundus images using deep learning. Investigative Ophthalmology & Visual Science, 60(11), PB090-PB090. Link

2018 Norouzifard M., **Nemati, A.** , Abdul-Rahman A., GholamHosseini H., Klette R. (2019) A Comparison of Transfer Learning Techniques, Deep Convolutional Neural Network and Multilayer Neural Network Methods for the Diagnosis of Glaucomatous Optic Neuropathy. In: Chang CY., Lin CC., Lin HH. (eds) New Trends in Computer Technologies and Applications. ICS 2018. Communications in Computer and Information Science, vol 1013. Springer, Singapore. Link

2018 Norouzifard, M., **Nemati, A.**, GholamHosseini, H., Klette, R., Nouri-Mahdavi, K., & Yousefi, S. (2018, November). Automated glaucoma diagnosis using deep and transfer learning: Proposal of a system for clinical testing. In 2018 International Conference on Image and Vision Computing New Zealand (IVCNZ) (pp. 1-6). IEEE. Link

2018 **Nemati, A.**, (2018). Gender and Age Prediction Multilingual Author Profiles Based on Comments. Link

POSTER

2022 **Nemati, A.**, Khani, M. Using document ranking to classify clinical trial eligibility criteria: Link

TEACHING ASSISTANT EXPERIENCE

- TCSS 545B- Database Management (Graduated Teaching Assistant): Spring 2019
- TCSS 559A- Web Services (Graduated Teaching Assistant): Winter 2018

AWARDS

- **2021 Best paper award in ISGV Auckland** Link
- **2021 Direct Funds $ 1500:** A Comparison of Approaches for Synchronizing Events in Video Streams Using Audio. Link
- **2019 Outstanding Paper Awards** the International Computer Symposium (ICS), Yunlin, Taiwan Link
- **2018 Certificate of the 9th International Cybersecurity Data Mining Competition** Link
- **Volunteer appreciation Award from Impact NW (YMCA)** Link

PROGRAMMING SKILLS

- **Data Scientist** : SAS and R programming
- **Machine Learning Techniques**: Tesnforflow 2.x, PyTorch , Keras, Scikit learn , Ensemble traditional and pre-trained models and Transfer Learning, LSTM and YOLO3
- **Natural language processing**: Language model, Bert, N-gram, Sentiment analysis, TFIDF
- **Languages**: Python 3.x Proficient, Java intermediate , C++ intermediate
- **Datebase:** MySQL, PostgreSQL , Sql Server , BigQuery
- **Data Visualization**: Tableau, ggplot2, MatplotLib, Seaborn
- **Big Data**: PySpark
- **Cloud Technologies**: AWS EC2, S3, Google Colab, Google Compute, Google Big-Query
- **Others**: GitHub, jira , Shiny app , The Internet of things