

POOYAN MOBTAHEJ

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Professional Summary

Progressive applied Software Engineer with 5 years of experience in computer and data science, programming, machine learning, modeling, and data mining with a creative problem-solving mindset.

Education

Doctor of Engineering Data Science Major Lamar University. TX

Graduating Dec. 2022, GPA: 3.9

Full Funded student and research graduate assistant in the field of data science and artificial intelligence

Bachelor of Science Software Engineering and DevOps Gothenburg University, Sweden

Graduated: 11/2015, GPA: B+

Experience

Lamar University

Graduate Research Assistant/ Beaumont, TX - January 2020 - Current

Project accomplishment:

- Deep Learning based anomaly detection for compressors using audio data: Employing LSTM-AE based models for detecting and classifying the anomalies in compressors systems (Sponsored by Well checked)
- Combining RCA and FMEA with ML based anomaly detection using multivariate data for compressors: Employing 10 different machine learning models for detecting anomalies of time series data based on FMEA (Sponsored by Emerson)
- Conducting Valve data analysis for anomaly detection based on ML modeling

KVM industry,

Machine Learning Internship/ Santa Ana, CA – October 2021 – December 2021

Machine Learning Modeling for Alarm Management System and alarm prediction as an volunteer intern

Blapen

Artificial Intelligence Engineer/ Gothenburg, Sweden – October 2014 – October 2019

Tasks included:

- Selected appropriate datasets and data representation methods.
- Designed machine learning systems and self-running artificial intelligence (AI) software to automate predictive models.
- Managed infrastructure and data pipelines to bring codes to production.
- Consulted with managers to determine and refine machine learning objectives.
- Conducted statistical analysis and interpreted results to guide organization's decision-making process.

Ericsson

Software Engineer/ Gothenburg, Sweden – September 2011 –February 2012

Tasks included:

- Conducting troubleshooting for failures detection in radio access network modems for cellular data
- Working on reporting FMEA for detected faults
- Following up maintenance for the modems
- Conducting research tasks for assessment of software DevOps frameworks in Ericsson Innovation Center, San Jose, US which lead to a published paper

Skills

Libraries and programming languages

- Familiar with R Programming
- Familiar with Python
- Familiar with OO languages
- Familiar with Artificial Intelligence
- Familiar with SQL and Database Management System
- Familiar with Java
- Familiar with JavaScript, HTML
- Familiar with MATLAB
- Familiar with Pandas, NumPy, TensorFlow, Keras, PyTorch, Scikit-learn
- Familiar with Visual Studio, Anaconda
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Leadership skills

- Teamwork
- Communication
- Adaptability
- Creative Problem-Solving

Certifications

- Machine Learning with Python
- Image Processing with Python
- Lean/Canvas Business Model Creation

- C programming

Publications and Industrial Presentations

Refereed Journal Publications

1. **Mobtahej, P.***, “Evaluation of Innovation Maturity Model (IMM) in Software development projects”. In: *CRPASE: Transaction of Computer Engineering*, 2020.
2. **Mobtahej, P.***, “Psychology of Change Management in Development process within Software Industry”. In: *CRPASE: Transaction of Industrial Engineering*, 2020.
3. **Mobtahej, P.***, “The Motivation behind investment in development of open source software projects”, In: *CRPASE: Transaction of Industrial Engineering*, 2021.

Refereed Conference Proceedings

1. **Mobtahej, P.***, Zhang, X.,*, **Hamidi, M.**, & Zhang, J., “Deep learning-based anomaly detection for compressors using audio data”. In: *Proc. of Reliability and Maintainability Symposium (RAMS)*, May 2021.
2. **Mobtahej, P.***, “Innovation Assessment in software development projects within IT startups” *International Conference on Commercialization of technology*, Tehran University , Iran, 2015

Working Manuscripts & Submitted

1. **Mobtahej, P.***, Hamidi, M., & Szidarovszky, F. “A special model for determining expected number of future failures”. (Submitted)
2. **Mobtahej, P.***, Zhang, X.,* , Hamidi, M., & Zhang, J. “An LSTM-Autoencoder architecture for anomaly detection applied on compressors audio data”. (Submission on Wiley)
3. **Mobtahej, P.***, Nadaf, S., Hamidi, M., Zargarzadeh, H. “Combining Root Cause Analysis and Machine Learning based approach on Anomaly detection in compressors using Audio data”(Submitted IISE)
4. **Mobtahej, P.***, Hamidi, M., & Zhang, J “VAE-LSTM Based Out of Distribution Anomaly Detection using Audio data for compressors” (working Manuscript)
5. Nadaf, S., **Mobtahej, P.***, Hamidi, M., Zargarzadeh, H. “Multiclass classifications of Root Cause Analysis and Machine Learning based approach on Anomaly detection in compressors using Audio data”(Submitted IISE)

(on going)

PRESENTATIONS and INVITED TALKS

1. Zhang, X., **Mobtahej, P.**, Hamidi, M., & Zhang, J. “Deep learning-based anomaly detection for compressors using audio data” *Institute of Industrial and System Engineering*, May 2021.
2. Mobtahej, P., Hamidi, M., Zhang, X., & Zhang, J. “Deep learning-based anomaly detection for compressors using audio data”. *INFORMS Quality, Statistic and Reliability*, Nov 2020. **QSR Best Paper Finalist**.
3. Zhang, X., Mobtahej, P., Hamidi, M., & Zhang, J. “Anomaly Detection in Audio Data using LSTM For Compressors” *Institute of Industrial and System Engineering*, May 2021.
4. Jafari, M.*, **Mobtahej, P.***, Sedaghat, A.* , & Hamidi, M. “Application of deep learning methods in waterways traffic prediction”. *Transportation Research Board*. Jan. 2022 (Accepted for Conference presentations in TRB)

Awards:

- QSR Best Paper finalist 2020

Pooyan Mobtahej, Xulong Zhang, Maryam Hamidi and Jing Zhang, "Deep Learning-based Anomaly Detection for Compressors Using Audio Data". Nov. 2020, Award description Link: <https://connect.informs.org/qsr/awards>

Professional Associations Memberships:

- Swedish Engineers Associations
- American Society of Quality
- QSR Associations
- Submitting the request for starting INFORMS student chapter at Lamar University

Honors:

- Mentor: Startup weekends in different cities around the world: Gothenburg, TechStars Company (Certificates Exists), 2015-2017
- Organizing BIZ programming workshop in Chalmers University, 2014
- Being part of founding programming language paradigm in Gothenburg University (Recommendation Letter available), 2013

-Among finalist of Best Startup Idea for AI based content delivery engine in Chalmers Spring Camp Sweden, 2012

-Selected as a finalist for Best Engineer Competition, Stockholm, Sweden, 2012

Grants:

-Seed fund for making MVP of AI based content delivery engine from Almi Innovation in Gothenburg, Sweden, 2013

-Scholarship for deep learning-based anomaly detection in Lamar University for pursuing Doctoral Program in a top-notch deep learning project, 2020

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Google Scholar: <https://scholar.google.com/citations?user=-6M3qtoAAAAJ&hl=en>