TAHER HAJILOUNEZHAD

Authorized to work for any US employer
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EDUCATION

PhD, Mechanical Engineering Expected March 2020
University of Missouri
M.Sc., Mechanical Engineering Sep. 2010
University of Tabriz
B.Sc., Mechanical Engineering Feb. 2006
University of Urmia

SUMMARY OF QUALIFICATIONS

- Expert in Data Science modeling and methodology and structuring machine learning projects
- Expertise in Machine Learning Algorithms: Regression, Classification, Unsupervised Learning and Clustering, Natural Language Processing, Neural Networks, Time Series, Decision Trees
- Hands- on skills in Deep Learning models and packages: TensorFlow, Keras, DNNs, CNNs, RNNs, LSTM, Transfer Learning
- Skilled in statistics and mathematical background of models
- Hands-on experience with Open Source Tools (Jupyter, RStudio, Watson Studio, Zeppelin, Google Colab) and Databases (SQL, Db2, Relational Database)
- Hands-on in the IBM Cloud using real data science tools and real-world data sets
- Proficient in Python, MATLAB, OCTAVE, SQL, C/C++, Linux, EES, SOLIDWORKS, AutoCAD, ANSYS FLUENT, COMSOL, Latex and MS Office
- In-depth theoretical and experimental knowledge of Synthesis of Carbon Nanotubes and Graphene
- Skillful to conduct Material Characterization (SEM, TEM, Raman, Nanoindentation, AFM, etc.)
- Authored 6 peer-reviewed papers

AREAS OF EXPERTISE

● Data Science ● Machine Learning ● Deep Learning ● AI-Driven Bioinformatics ● Image Processing ●Object Detection ● High Performance Computing (HPC) ● Data Mining and Exploration ● Data Visualization and Management ● High-Throughput Modeling and Simulation ● Model Validation ● In-situ Electron Microscopy Experimentation ● Fabrication of complex 3D CNT Forests

SELECT PROFESSIONAL EXPERIENCE

University of Missouri Columbia, MO
Graduate Research Assistant– Adviser: Professor Matthew Maschmann Aug. 2016 – Present

- Applying Machine Learning / Deep Learning techniques in Mechanical Engineering and Material Science Image Processing
- Training ML/DL models including local feature extraction, RF, SVM, PCM, Neural Networks, Transfer Learning, Classification, Clustering, Regression to identify the physical properties of CNT forests via images of CNT forest morphology
- Developing algorithms based on labeled data in Python derived from a physics-based simulation model for rapid exploration of carbon nanotube forest synthesis-structure-property relationships
- Evaluating model performance of classification via k-fold cross-validation technique and confusion matrix, achieved **accuracy > 96%** for image classification
- Fabricating Carbon Nanotube Forests using CVD methods for microscale functional CNT devices
- Simulating the synthesis and self-assembly of freeform CNT microarchitectures by a synergistic time-resolved and multi-physics based finite element simulation platform
- Conducting In-situ growth of CNT forests inside Environmental Scanning Electron Microscope

University of Missouri, Mechanical & Aerospace Engineering Department — Columbia, MO
Lab Instructor — *Aug.* 2018–Present

- Lectured and Instructed "ENGR 1110 - Solid Modelling for Engineering Design (SOLID WORKS)" and "ENGR 1100- Engineering Graphics Fundamentals (AUTOCAD)"
- Supervised and Supported student teams on completing real-life and industrial projects to provide hands on experience in design of mechanical systems and structures

University of Missouri, Mechanical & Aerospace Engineering Department — Columbia, MO
Graduate Teaching Assistant — *Aug.* 2017–Aug. 2018

- Organized and tutored MAE core courses: "ENGR 2300 - Engineering Thermodynamics" and "MAE 4300 - Heat Transfer"
- Communicated with students to resolve course conflicts and graded assignments and projects

Tarh Afarinan Hezare Omid Consulting Engineering Company — Tehran, Iran
Business Development and R&D Manager — Jan. 2014 – July 2016

- Managed R&D activities in collaboration with a team of 20 scholars and scientists to code a novel software for simulation and optimization of water pipelines by ANN approach
- Established new engineering opportunities for multiple mega projects, including a $1.7B Tehran-Qom-Isfahan high speed train and a $400M Daralou copper concentration plant among others - **150% increase** in company contracts

Brochot Group — Paris, France
Project Manager of €150M Sungun Copper Refinery & Oxygen Plant — *Jan.* 2013 –Apr. 2013

- Provided basic/detailed engineering including equipment specifications and supervisory services – **33% reduction** in project costs
- Supplied and manufactured main and process equipment for Copper Refinery Plant

LEADERSHIP AND AFFILIATION

- Fellow of Electron Microscopy Core - University of Missouri — June 2018– Present
- Member of Material Research Society (MRS) — Sep. 2018– Present
- Member of American Society of Mechanical Engineers (ASME) — Aug. 2017– Present
- Mentored undergraduate students National Science Foundation (NSF) sponsored REU program (Research Experience for Undergraduates) — Summer 2018 & 2019
- Graduate Professional Council (GPC) Representative for the Mechanical & Aerospace Engineering Department — Aug. 2017 –Aug. 2018

SELECT CERTIFICATIONS

- Data Science Professional Certificate by IBM — Nov. 2019
- Machine Learning by Stanford University — July 2019
- TensorFlow in Practice Specialization by deeplearning.ai — Oct. 2019
- Deep Learning Specialization by deeplearning.ai — Sep. 2019
- Data Visualization and Communication with Tableau by Duke University — Dec. 2019
- Decoding Science: NSF funded skills-based science communication training — May 2019
- Fundamentals of Engineering (FE) — Feb. 2018

AWARDS

- University of Missouri International Center Scholarship - $1000 — July 2019
- Mizzou Electron Microscopy Core Award: "Excellence in Electron Microscopy"- $2500 — June 2018