**TAHER HAJILOUNEZHAD**

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| Authorized to work for any US employer |  |
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| [github.com/thnrf](https://github.com/thnrf) | (573) 529-5522 |
| 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



o Expert in Data Science modeling and methodology and structuring machine learning projects

o Expertise in Machine Learning Algorithms: Regression, Classification, Unsupervised Learning and Clustering, Natural Language Processing, Neural Networks, Time Series, Decision Trees

o Hands- on skills in Deep Learning models and packages: TensorFlow, Keras, DNNs, CNNs, RNNs, LSTM, Transfer Learning

o Skilled in statistics and mathematical background of models

o Hands-on experience with Open Source Tools (Jupyter, RStudio, Watson Studio, Zeppelin, Google Colab) and Databases (SQL, Db2, Relational Database)

o Hands-on in the IBM Cloud using real data science tools and real-world data sets

o Proficient in Python, MATLAB, OCTAVE, SQL, C/C++, Linux, EES, SOLIDWORKS, AutoCAD, ANSYS FLUENT, COMSOL, Latex and MS Office

o In-depth theoretical and experimental knowledge of Synthesis of Carbon Nanotubes and Graphene o Skillful to conduct Material Characterization (SEM, TEM, Raman, Nanoindentation, AFM, etc.)

1. 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



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| • | 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 | Summer 2018 & 2019 |
|  | (NSF) sponsored REU program (Research Experience for Undergraduates) | |
| • | Graduate Professional Council (GPC) Representative for the | Aug. 2017 –Aug. 2018 |
|  | Mechanical & Aerospace Engineering Department |  |

SELECT CERTIFICATIONS



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| • 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