

Maede Maftouni

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EDUCATION

Ph.D. in Industrial and Systems Engineering <i>Virginia Tech, Blacksburg, VA, USA</i> GPA: 4/4	Aug 2017 – Present Expected Graduation: Sep. 2022
M.Sc. in Industrial and Systems Engineering <i>Virginia Tech, Blacksburg, VA, USA</i> GPA: 3.97/4	May 2020
M.Sc. in Industrial and Management Systems Engineering <i>Amirkabir University of Technology (AUT), Tehran, Iran</i> GPA: 3.91/4	May 2015
B.Sc. in Industrial and Management Systems Engineering <i>Amirkabir University of Technology (AUT), Tehran, Iran</i> GPA: 3.82/4	May 2013

SKILLS

- Solid knowledge in **Data Analytics, Machine Learning, Deep Learning, and Computer Vision**
- Experience in programming languages: **Python** (Pandas, PyTorch, TensorFlow), **R, SQL, MATLAB, VBA**
- Experience in technical software: **Tableau, SPSS, ARENA, CPLEX, VENSIM, OpenCV, and Primavera P6**

SELECTED WORK EXPERIENCE

Graduate Research Assistant, Virginia Tech	Sep. 2018 – Present
<ul style="list-style-type: none">• Implemented federated learning for 3D printing process, Aug 2021• Designed an attention-based deep learning model for parameter calibration of dynamical systems, Jan 2021• Designed and implemented two robust COVID-19 CT scan classifiers on our curated dataset, Oct 2020• Designed and implemented a deep learning structure for laser melt pool video object segmentation, May 2020• Implemented an online machine learning based control of smartphone battery recycling process, Nov 2019	

PUBLICATIONS

- **Maede Maftouni**, Bo Shen, Andrew Chung Chee Law, N. Ayubi Yazdi, Zhenyu (James) Kong, “A Mask-guided Attention Deep Learning Model for COVID-19 Diagnosis based on an Integrated CT Scan Images Database,” submitted to IISE Transactions on Healthcare Systems Engineering
- **Maede Maftouni**, Andrew Chung Chee Law, Bo Shen, Yangze Zhou, N. Ayubi Yazdi, Zhenyu (James) Kong, “A Robust Ensemble-Learning Model for COVID-19 Diagnosis on CT Scan Images,” in IIE Annual Conference 2021
- Liurui Li, **Maede Maftouni**, Zhenyu (James) Kong, Zheng Li, “An Automated Recycling Process of End-of-Life Lithium-Ion Batteries Enhanced by Online Sensing and Machine Learning Techniques,” in REWAS 2022
- **Maede Maftouni**, M.H. Fazel Zarandi, I.B. Turksen, N. Ayubi Yazdi, “Systematic Bone Infection Detection in Axial Diabetic Foot MRI,” in IEEE CIBCB 2015
- **Maede Maftouni**, M.H. Fazel Zarandi, I.B. Turksen, Faeze Roshani, “Type-2 Fuzzy Rule-Based Expert System for Ankylosing Spondylitis Diagnosis,” NAFIPS 2015
- Faeze Roshani, M.H. Fazel Zarandi, I.B. Turksen, **Maede Maftouni**, “Fuzzy Expert System for Prognosis of Breast Cancer Recurrence,” NAFIPS 2015

AWARDS AND ACHIEVEMENTS

- **Won the runner-up award** in INFORMS QSR **Data Challenge** on “**CT Diagnosis for COVID-19**” Nov 2020
- **Won the second place** in the 2020 VT INFORMS student chapter **Poster Competition** Nov 2020
- Awarded the **Graduate Fellowship** for the Ph.D. program at Virginia Tech Apr 2017
- Awarded the honorary admission to M.Sc. in Industrial Engineering at AUT June 2013

PROFESSIONAL TRAINING AND CERTIFICATES

- Graduate **Certificate in Data Analytics** at Virginia Tech May 2020
- One-year higher education course entitled “**Project Engineering**” at Tose’eh Institute Apr 2016
- Using Python to Access Web Data - University of Michigan at Coursera.org May 2016
- Machine Learning - Stanford University at Coursera.org Dec 2015

LEADERSHIP AND ACTIVITIES

- Served as **INFORMS student chapter vice president** at VT Aug 2020 - May 2021
- Served as the ISE scientific association vice president at AUT Aug 2010 - May 2011