

MAHDIAFKHAMIAGHDA

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Work Authorization: 36 months OPT

WORK EXPERIENCE

Building Performance Analyst – DLR Group, Sacramento, CA, USA

July 2021 – Present

- Supporting the design team in pursuit of high performance in design phase through simulation for design assistance
 - Performing energy modeling for achieving net zero buildings
 - Conducting daylight analysis for LEED documentation
- Exploring different methods of qualitative and quantitative data collection and data processing
 - Develop post-occupancy surveys
 - Collect and analyze occupancy, IAQ, and sound sensor data
- Design and automate data collection, analysis, and extraction
 - Develop a Graphical User Interface in Python connected to a dynamic excel framework for automating responses to project managers for collecting data
- Develop analytical models to connect and analyze findings from research
 - Generating a data visualization model for reading and analyzing the indoor air quality sensor data
- Apply data science techniques across structured and unstructured data sets range to uncover new insights
 - Developing a SARIMA time-series model forecasting the energy usage of buildings in time
 - Creating a Python model to calculate the utility bill cost according to Time Dependent Values
 - Creating a KNN Recommendation System for selecting the most optimized HVAC mechanical option
 - Developing an ANN and Linear Regression models for predicting the heat load of buildings using TensorFlow and sklearn

RESEARCH EXPERIENCE

Graduate Research Assistant – Purdue University, USA

Jan 2018 – May 2021

- Researching the application of data-driven decision making in construction
- Developing predictive statistical modeling and machine learning models using different data types
- Employing different data collection methods and data processing such as survey
- Utilizing graphical tools such as Tableau and PowerBI to represent the data

EDUCATION

Purdue University, West Lafayette, IN, USA.

Jan 2018- May 2021

Degree: Construction Management Technology: Ph.D. - GPA: 4.00

- Coursework: Programming, Predictive Models, Statistical Models, Visualization Tools & Application

University of Oklahoma, Norman, OK, USA.

Aug 2015 – Dec 2017

Degree: Master of Science in Architecture- GPA: 3.86

- Coursework: Sustainable Design Analytic, LEED Seminar

University of Tehran, Tehran, Iran.

Sep 2010 – July 2015

Degree: Bachelor of Architecture- GPA: 4.00

- Coursework: Project Management, Natural Design Analysis

SKILLS

Technical Skills: Statistical Modeling, Predictive Analytics, Machine Learning, Numerical Simulation, Business Intelligence and Analytics, Deep Learning

Design Software: Revit, Sketch-Up, AutoCAD, Rhino

Analytical Software: IES, EnergyPlus, eQuest, Grasshopper, Dynamo, Ladybug

Programming Languages: Jupyter, Python (Numpy, Pandas, Scikit-learn, Tkinter, OpenCV, TensorFlow, Keras), Machine Learning,

Databases: MySQL, Snowflake SQL

Visualization and Reporting: Tableau, Power BI, R Studio, Processing, Photoshop, MS Excel, MS Word, MS PowerPoint, PSS

PROFESSIONAL LICENSES

- LEED Green Associate
- RESET AP

WORK SAMPLES

Github: <https://github.com/mafkhmi91>

Scholar: <https://scholar.google.com/citations?user=kcV7n2wAAAAJ&hl=en>