

Ali Hassanzadeh

✉ datascience.ali.ai@gmail.com 📞 (209)761-3345 📍 San Francisco, CA
🌐 alihassanzadeh.info 🔗 linkedin.com/in/ahassanzadeh-ai 🐙 github.com/ahassanzadeh

Experience

Artificial Intelligence Fellow *Insight Data Science, SF, CA*

Sep 19 - Present

- **Deep Reinforcement Learning for Simulation of Animal cognition**

A competition by NeurIPS 2019 called AnimalAI-Olympics

- In collaboration on a consulting project for In-Q-Tel Lab 41 to use Deep Reinforcement learning to train an agent that can learn animals' skills such as food retrieval in a simulated environment(Unity).
- This approach has potential be applied to train control system of a **animal-like robot** like recuse dog

Graduate Student Researcher *University of California, Merced, CA*

Aug 15 - Aug 19

- **A Novel Solar Powered for Electricity, Hot water and Space Heating**

funded by California Energy Commission(CEC)

- prototype a novel 20KW solar collector array to provide heat for water desalination system
- Model optical and thermal performance of the solar collector using COMSOL Multiphysics
- Design Structural and thermal Analysis using Finite Difference method(FDM) in Matlab

- **Low-cost Dispatchable Heat and Small-scale Solar-Thermal Desalination Systems**

funded by Department of Energy(DOE)

- 3D design of the solar collector using SOLIDWORKS
- Using heat pipe to cool down silicon solar cells in order to enhance the electrical efficiency and extracting heat to warm up household's water

Projects

- **Purchasing time and value prediction using Time series**

- **Purpose:** Accurate prediction of companies' financial growth based on customers transaction helps a money management incorporation to predict quarterly earnings accurately for investors and shareholders
- **Outcome 1:** The frequency of the customers transactions for each customer evaluated separately and transaction dates are forecasted. **The accuracy of the algorithm with xgboost is 75% using Python**
- **Outcome 2:** The transactions' value are predicted using **LSTM** with **80% accuracy**

- **Solar Irradiation Forecasting using machine learning**

- **Purpose:** Accurate prediction of annual solar irradiation is one of the major component to transform from fossil fuel to solar energy all around the world
- **Machine learning methods:** linear regression, Random Forrest, Naive Bayes, PCA and GradientBoostedRegressor(GBR) using Python
- **Outcome:** The GradientBoostedRegressor(GBR) algorithm showed the best performance which could predict the solar irradiation for **the test dataset with 80% accuracy**

Education

Ph.D., Environmental Engineering, *University of California, Merced*

expected on Dec 2019

Master of Engineering, Mechanical Engineering, *Sharif Uni of Tech, Iran*

June 2015

Bachleor of Science, Mechanical Engineering, *Mashhad University, Iran*

July 2013

Technical Skills

- **Programming and Scripting Languages** Python, MATLAB, C# , LaTeX, HTML
- **ML Tools:** TensorFlow, Keras, Scikit-Learn, Numpy, Pandas
- **Engineering tools:** AWS, Git, Streamlit