Xueqin Huang

PH.D. CANDIDATE · 3+ YEARS EXPERIENCE IN QUANTITATIVE SIMULATIONS

(+1) 626-238-4018 | xueq13@tamu.edu | Celery030 | xueqin-huang

EDUCATION

Texas A&M University
College Station, TX, USA

PH.D. IN COMPUTATIONAL MATERIAL SCIENCE ENGINEERING, GPA 3.9/4.0 *Sep. 2017 - Present*

- Applying data-driven approach for accelerating materials discovery and implement the physical model to predict the microstructure.

Southern University of Science and Technology
Shenzhen, CN

B.S. IN PHYSICS, GPA 3.8/4.0 *Sep. 2013 - Jul. 2017*

- Focused on condensed matter physics enhancing the properties for thermoelectric materials.

EXPERIENCE

Research Assistant, Computational Materials Science Lab
College Station, TX, USA

MICROSTRUCTURE PREDICTION OF ADDITIVE MANUFACTURING MATERIALS *Sep. 2017 - PRESENT*

- Applied machine learning method to accelerate the simulation process based on experiments
- Implemented a fluid dynamic model of a rapid solidification process using Python
- Investigated the velocity of fluid flow and the change in order parameters
- Implemented a dissipation phase field model using MATLAB and Python
- Simulation implemented GPU hardwares for a rapid computation

SKILLS

Coding languages Python, C++, MATLAB, R, JAVA, SQL
Frameworks Tensorflow, scikit-learn. scikit-optimize, Keras, Panda, Spark, Pytorch
Algorithm Heterogeneous encoding network, CNN, SVM, Gradient Boost Trees, Random forest, MCMC

PROJECTS

Photo Classifier on Human Identities
USA

MACHINE LEARNING PROJECT *Aug. 2019 - Oct. 2019*

- Determined the face size and the location from arbitrary photos and then categorized the faces with human identities
- Implemented the Cascade Classifier for the face detection and the deep learning Model, MobileNetV2, for the face recognition part
- Two faces have same identity or not determined by whether the Euclidean distance between the feature vectors extracted from the intermediate layer in the model under the threshold
- The model is trained for the face identification on big data set, named VGGFace2, with 3.3 million faces, achieved 90% AUC on the face recognition and the new face identification

Microsoft Malware Prediction
USA

KAGGLE, ONLINE COMPETITION *Dec. 2018 - Mar. 2019*

- Predicted a Window's machines's probability of getting infected by various families of malware, based on 90 features for each sample.
- Coupled JMMD to consider the domain transfer using Tensorflow.
- Achieved 0.69 AUC with an ensamble of LGBM and DNN-based factorization model, which is in the top 9 % of the leaderboard.

Path Optimization
USA

WALMART DATATHON *Oct. 18 2019 - Oct. 19 2019*

- Won the second place for the competition.
- Applied k-Means Method to cluster the target goal in physical distance
- In each cluster, used dijkstra to find the minimal weighted path between the target goal points
- Used greedy methods to find the connection among clusters from local minimum

Three-dimensional Reconstruction
College Station, TX, USA

STATISTICAL MODELING, MATLAB *Jun. 2018 - Jul. 2018*

- Reconstructed three-dimensional object from the two-dimensional images with different orientations, capturing the anisotropy in microstructure .
- Implemented solid optimization process by looping the phase search and the phase optimization using Matlab.

SYNERGISTIC ACTIVITIES

Teaching Assistant, Thermodynamics in Materials Science
College Station, TX, USA

MATERIAL SCIENCE CLASS IN TAMU *Sep. 2018 - Dec. 2018*

- Advised graduate students to understand the fundamental for the thermodynamic and gain the capability to calculate and plot a phase diagram.