MOHIT **ISRANI**

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EDUCATION

Master of Science in Computers and Information Science and Engineering — May 2018
Master of Science in Materials Science and Engineering
University of Florida, Gainesville, GPA: *3.82 / 4*

Bachelor of Technology in Metallurgical and Materials Engineering — May 2015
National Institute of Technology (VNIT), Nagpur, India, GPA: *8 / 10*

SKILLS

Programming Languages — Java · Elixir(Erlang) · Python · C/C++ · JavaScript · HTML/CSS · SQL

Computational Technologies — R · MATLAB · Open-MPI · VIM · Git · VASP · VESTA

Relevant Coursework — Algorithm Analysis, Data Science & Mining, Distributed Systems, High Performance Computing, Database Management Systems, Statistical Methods in Research I and II, Computer Network.

PROJECTS

Predict Closed Questions on StackOverflow (Python) — Nov 2017 – Dec 2017

- Analyzed multiple data science classifiers to predict whether a question posted by a user on Stack Overflow will be closed or if so providing an explanation or determining why the reason that the question was closed.
- Preprocessed 4 million records to remodel the as-given features to traits of users and topical features of the questions.
- Evaluated the goodness of classifier models using the multiclass logarithmic loss function, accuracy, and confusion matrix.

Age-Invariant Face Recognition (Python) — Nov 2017 – Dec 2017

- Created binary classifiers, linear, k-nearest neighbors, neural network and support vector machine (SVM) classifiers to predict whether two given age invariant images belong to the same person or not.
- Produced LBP (Local Binary Pattern) and HOG (Histogram of Oriented Gradients) features on extraction from Cross-Age Celebrity Dataset (CACD) that was used to generate the classifier models.

Pastry Protocol Implementation using Functional Language (ELIXIR) — Oct 2017 – Oct 2017

- Implemented a distributed object location and logarithmic efficiency routing substrate for peer-to-peer applications.
- Introduced global storage/routing using distributed hash tables based on key matching on an expanded overlay network of nodes (10,000).
- Also, implemented pastry failure handling; works even on a connection failure of up to 80% of nodes.

Bitcoin Mining using (ELIXIR) — Aug 2017 – Sep 2017

- Generated Bitcoins by mining with Actor model concept. Used SHA-256 as hashing function for bitcoin mining.
- Gained efficiency by distributing work from server computer to multiple clients (computers) upon request.
- Every client, in turn, accelerated mining by dividing and allocating work to several worker threads.

Internet chat room application implementation (JAVA) — Nov 2016 – Dec2016

- Delivered a multi-user chat application using multithreading and socket programming.

Improved functionality by providing users with options to unicast, broadcast, block-cast texts and files via the server

SCIENTIFIC COMPUTING

Density Functional Theory(DFT) Prediction and Characterization of 2D Chalcogenides — Apr 2016 – Present

Graduate Student Assistant | Advisor: Dr. Richard Hennig | VASP(DFT), VESTA, Python, MATLAB

- Streamlined high-throughput DFT calculations by automation using an open source Python library for materials analysis.
- Discovered novel 2D structures by performing DFT calculations using Hybrid exchange-correlation functional.
- Generated plots, charts and other data representation schemes using Matplotlib, a Python 2D plotting library.

Performance Comparison of Parallelized Algorithms (C, Open-MPI) — Nov 2016 – Dec 2016

- Maximized processing speed by systematically distributing a pool of 10 million records on multiple processors.
- Achieved parallel programming using Open-MPI to execute instruction simultaneously on processors

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ACHIEVEMENTS

Certificate in Scientific Computing (Awarded by University of Florida) — Jan 2016 – Feb 2017

- Successfully Completed the prescribed course of study.

Event Director of Indian Graduate Student Association (IGSA) at University of Florida (UF) — Jan 2016 – Feb 2017

- Planned and organized cultural, social events and conventions throughout the year
- Expanded medium of networking for graduate students and alumni.

Part of Institute for Pure and Applied Mathematics(IPAM), UCLA Workshop 2017 — Oct 2017 – Oct 2017

- A week-long discussions and seminars on Optimization & Optimal Control for Complex Energy and Property Landscapes.

Poster Presentation at the International Conference, Electronic Materials and Applications (EMA) 2017 — Feb 2017 – Feb 2017

- On "DFT Prediction and Characterization of Two-Dimensional Group-III Chalcogenides.