MOHIT **ISRANI**

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Sunnyvale, California

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: *3.80 / 4*

Bachelor of Technology in Metallurgical and Materials Engineering — May 2015
National Institute of Technology (VNIT), Nagpur, India, GPA: *7.92 / 10*

TECHNICAL SKILLS

Programming Technologies — Java · JavaScript · React · Python · C/C++ · 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.

WORK EXPERIENCE

Graduate Student Assistant | Advisor: Dr. Richard Hennig | Python, MATLAB, VASP(DFT), VESTA — Apr 2016 – May 2018

Density Functional Theory (DFT) Prediction and Characterization of 2D Chalcogenides

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

PROJECTS

Prediction of 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 not; and 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 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.
- Replicated global routing using distributed hash tables based on key matching on an overlay network of nodes (10,000).
- Handled pastry failure as well; which 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.
- Surpassed the single PC hashing power by systematically distributing work from one to many computers; (tested on 10 computers) Limited by maximum number of simultaneously open Erlang ports is often by default 16,384.
- Accelerated individual PC 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.

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.

ACHIEVEMENTS / LEADERSHIP

Certificate in Scientific Computing (Awarded by University of Florida) — Aug 2017

- Successfully Completed the prescribed course of study.

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

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

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

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

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

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