

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

TECHNICAL 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.

WORK EXPERIENCE

Graduate Student Assistant | Advisor: Dr. Richard Hennig | Python, MATLAB, VASP(DFT), VESTA Apr 2016 – Present
Density Functional Theory(DFT) Prediction and Characterization of 2D Chalcogenides
• 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.

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 routing using distributed hash tables based on key matching on an overlay network of nodes (10,000).
• Handled pastry failure as well; 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 – Dec 2016
• 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.