Chamila C. Dharmawardhan, Ph.D

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LinkedIn Google scholar GitHub

Authorized to work in USA (Green Card holder)

Dedicated **computational physicist** with 12+ years of diverse experience in numerical simulation, scripting and data analysis and on HPC and other UNIX based systems. excellent team player with aptitude for planning and conducting interdisciplinary projects.

Skills & experience

languages:	Python, TSQL, C++, Java, Fortran, BASH, Perl, Mathematica, Matlab
frameworks:	Anaconda, SciKit learn, Pandas, numpy, scipy, TensorFlow, beautifulsoup, bootstrap4, GitHub
HPCC:	supercomputers (NERSC, XSEDE, ALCF). PBS, LSF ans SLURM batch queuing systems
Management:	Designed interdisciplinary research projects with diverse research collaborations effectively

projects

Facial emotion recognitions via deep learning 2020

Project description.....

- get data with IMDB, TMDB and other data APIs and webscrape with **beautifulsoup, Selinium**
- Movie dataset analysis and classification of genres using **KNN** classifier
- Housing price prediction model via multi linear regression model

Pneumonia prediction from X-ray images with CNN techniques 2020

Project description.....

- xxxxxxxxxxxxxxxxxxxx
- xxxxxxxxxxxxxxxxxxxx

Customer churn analysis of TelCo data 2020

Project description.....

- xxxxxxxxxxxxxxxxxxxx
- Customer churn prediction with **logistic regression, Decision tree, Random forest, SVC, verity of boosting** algorithms.

Employment

Senior Research Associate, Illinois Institute of Technology 2019 - 2020

Development FFT based algorithms for protein docking. Automated structure retrieval using **protein data bank API**. Development of FFT based method (**numpy, pandas**) to evaluate binding affinity of protein complexes and building scripts to streamline docking simulations of large databases

Post Doctoral Fellow, Georgetown University 2017 - 2019

2 Publications. Development of accurate and efficient computational methods for bio-macromolecular simulations. building pythons scripts to streamline parameterization and simulation. Collaborated (**GitLab**) with Laboratory of Computational Biology at NIH for coding potential function for the SSMP model and other projects.

Post Doctoral Fellow, University Colorado Boulder 3 Publications 2016 - 2017

Understanding corrosion of high temperature super-alloys in 4D: experimental/theoretical collaboration. Developed Python tools for force fields building, data handling and visualization of results. Automated calculations and visualizations via python and bash scripting.

Graduate Research Assistant, University Missouri - Kansas City 2011 - 2015

11 Publications. Utilized *ab initio* simulation techniques to gain insight into structure at atomistic level of cement based materials. Developed efficient methods for thermo-mechanical simulations at high temperature. **OpenMPI** calculations. Troubleshoot software, manage group accounts in supercomputers and mentor students. Mentored three masters students, one undergraduate student, and one visiting scholar.

Education

2020 **Certificate, Data Science, Flatiron school of computing**

2015 **Ph.D., Physics, University of Missouri – Kansas City**

2008 **MS., Physics, Central Michigan University**

2005 **BS., Physics/Mathematics, University of Colombo, Sri Lanka**