APAAR SHANKER

Ph.D. Candidate, College of Computing, Georgia Tech

@ apaar.shanker@gatech.edu   ☏ +1 404-955-2251   ○ https://github.com/auag92   in https://www.linkedin.com/in/ashanker314

INTERNSHIPS

Quantitative Strategies Summer Associate
Bank of America Merrill Lynch, Equities Electronic Execution

📅 June 2019 – Aug 2019   📍 New York City, New York

Research Associate
National Institute of Standards and Technology

📅 May 2018 – July 2018   📍 Gaithersburgh, MD

PROJECTS

Python Library for Materials Knowledge Discovery (PyMKS)
National Institute of Standards and Technology

📅 May 2017 – Ongoing   📍 Gaithersburg, MD

- ○ https://github.com/auag92/pymks
- Worked on the development of an open source python software, currently available on conda-forge.
- Implemented novel analytics algorithms in functional and distributed form using PyToolz and Dask, to leverage multicore and multithread capabilities of modern processors.
- Wrapped the implementation in scikit-learn API

Learning Simulations using Convolutional Neural Networks
Georgia Tech, National Institute of Standards and Technology

📅 Jan 2017 – ongoing   📍 Atlanta, GA

- Developing a CNN model using PyTorch, with constrained and free filters to learn the Partial Differential Equations underlying simulation of natural phenomenon.

High Throughput Analytics of Molecular Datasets
Georgia Tech, National Science Foundation

📅 Sep 2016 – ongoing   📍 Atlanta, GA

- Development of computer vision based feature generation and visualization workflows for nanoporous macromolecules.
- Deep learning based predictive linkages for high throughput selection of optimal materials for desired performance attributes.

High Performance Multi-Physics P.D.E Solver
Indian Institute of Science

📅 Sep 2014 – May 2016   📍 Bangalore, India

- ○ https://github.com/auag92/lattice_boltzmann_phase_field
- Developed a fully parallelized, finite difference, multiphysics solver in **C** using **MPI** to simulate alloy solidification in presence of fluid flow on an HPC cluster.

Accelerating Database Management System
Georgia Tech

📅 Sep 2018 – Aug 2019   📍 Atlanta, GA

- An automated query caching system in C++ to accelerate exploratory queries in a relational database.

EDUCATION

P.h.D. Candidate (Machine Learning), College of Computing
Georgia Institute of Technology

📅 Aug 2016 – Dec 2020

Master of Science
Indian Institute of Science, Bangalore

📅 Aug 2015-June 2016 📍 First Class

Bachelor of Science
Indian Institute of Science, Bangalore

📅 Aug 2011-June 2015 📍 First Class

SKILLS & STRENGTHS

OS: Linux, Intermediate Systems Knowledge

Languages: Python, C, C++, Bash, MATLAB

Tools: scikit-learn, numpy, scipy, pandas

Dask, Pytoolz, PyTorch, TensorFlow

HONORS

🏆 **J. N. Tata Endowment Scholarship for Higer Education Awarded in 2016**

🏆 **INSPIRE Scholarship**
Awared by Dept. of Science and Tech., Govt. of India, 2011-2016

EXTRACURRICULARS

🏆 **Senator, Georgia Tech Student Government Association**

🏆 **Chief-Coordinator, Sponsorship and Outreach, IISc Techno-Cultural Fest**

CONFERENCES

CHIMAD, Phasefield V
Northwestern University

📅 Aug 2017, Conducted tutorial

MLSE 2018
Carnegie Mellon University

📅 June 2018, Presented poster