Akshaya Jagannadharao

Software Engineer

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Education

University of Illinois at Urbana-Champaign
› Master of Computer Science — GPA: 4.0 | Graduation May 2021
› B.S. in Computer Science — GPA: 3.51 | Aug 2016 – May 2020
› Dean's List – Spring 2019 & Spring 2020

Professional Experience

High Performance Computing (HPC) Intern @ Intel — May 2020 – Present | Hillsboro, OR
› Developing infrastructure to extract performance data from Cray HPE systems to validate integration of Intel's hardware with Cray's software stack
› Extract and analyze performance data and visualize Figure of Merit (FOM) metrics using Matplotlib in webtool created using Django and Bootstrap

Full Stack Intern @ Intel — May – Aug 2019 | Hillsboro, OR
› Co-developed graphical interfaces using Plotly for data visualization of test results that enables developers to measure FOM in Intel supercomputers involving multiple compute nodes, CPUs, GPUs, HW/SW, high-performance fabric, etc.
› Developed front-end interface for performance and functional validation and configured back-end to use PostgreSQL database to store test results
› Code reviewer for Command Line Interface (CLI) that interacts with Jenkins console to run test suites configured in the web tool

Enterprise Data Analytic Intern @ Blue Cross Blue Shield — Jan - May 2019 | Chicago, IL
› Used Natural Language Processing (NLP) to create topic models and performed sentiment analysis on customer calls to meet business goals targeted to improve customer service

HPC Frameworks Intern @ Intel — May - Aug 2018 | Hillsboro, OR
› Enhanced features in test harness and underlying software [Middleware Testing Tool (MTT)] and aided internal and open-source release of software
› Configured continuous integration environment for open-source community, MTT
› Revamped and created internal and open-source documentation for MTT by creating a website for users and developers to understand MTT architecture

Research

Assessment of Student Contributions — Oct 2019 - Present
› Researching in Human-Computer Interaction (HCI) to assess individual student contributions and role of bias within a team that aids students and faculty evaluations
› Building back-end database connection in MySQL to store user-data scraped from GitHub, GoogleDocs, Slack, etc. and constructing a visual breakdown of team contributions

Projects

Time-Domain Simulator — Aug 2020 – Present
› Refactoring python code for time-domain analysis of independent clocks for parts per million (ppm) analysis

Causal Topic Modeling with Time Series Feedback — Aug – Dec 2020
› Created a text mining framework to establish causal relationships between serialized data sets using Iterative Topic Modeling with Time Series Feedback technique
› Generated interactive visualizations of causal relations using pyLDAvis and matplotlib

Ray Tracing — Jan – May 2020
› Parellelized Kevin Beason's iterative ray tracer code using CUDA
› Optimized it using parallelizing subpixel calculations and restructuring kernel and radiance functions to effectively utilize thread warps

Technical Paper

Comparing Speed of Adaboost Implementations on Distributed Systems. SparkBOOST vs Scikit-learn
› Determined the advantages of different implementations of the AdaBoostClassifier from two libraries (SparkBOOST \& Scikit-Learn) and the point at which a distributed version of the algorithm outperforms its single-core counterpart [link to paper]

Skills

Programming Languages
Bash, C/C++, CSS/HTML, Java, Javascript, MySQL, PostgreSQL, Python

Libraries & Frameworks
Django, Docker, MapReduce, Node.js, NumPy, Pandas, SciPy

Tools & Platforms
Git, Jenkins, Latex, Tableau, TravisCI

Coursework

Numerical Analysis, Applied Parallel Programming, Scientific Visualization, Text Information Systems, Antisocial Computing

Interests

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