Vignesh Chandrasekhar
Software | Data | DevOps | Cloud | Architecture
https://vigneshchandrasekhar.com

EDUCATION

Bachelor of Science in Computer Science *(Summa Cum Laude)*   **Boulder, CO**
University of Colorado Boulder   **Aug 2019–May 2023**
GPA: 4.0 Major | 3.983 Cumulative
Awards: Professional Learning Award, Active Learning Award
Courses: Algorithms, Data Structures, Software Development, Network Systems, Linux Systems Administration, Operating Systems, Database Systems, Data Science, Artificial Intelligence,, Theory of Computation, Discrete Structures, Machine Learning

Technical Skills

Languages + Frameworks: Python, C, C++, SQL, Bash, JavaScript, Angular, React, NodeJS, .NET Core
Platforms + Services: Google Cloud, Snowflake, Docker, Bamboo, Git

Professional Certificates

Google Cloud Platform
- Professional Cloud Architect *(Issued Feb 2024)*
- Associate Cloud Engineer *(Issued Dec 2023)*

Snowflake Computing
- SnowPro Core Certification *(Issued April 2024)*

EXPERIENCE

Associate Software Engineer; *Charles Schwab – Wealth Asset Management*   **Sept 2023 – Present**
- Fund of Funds NPI Hashing Framework
  - Assumed ownership of the hashing python code base swiftly, becoming the central point of contact
  - Implemented encryption and decryption of the data files from on-prem to Google Cloud Storage
  - Streamlined on-prem infrastructure setup by crafting effective bash scripts, including tasks like mounting NAS filesystems and setting permissions in lower environments
  - Successfully migrated the hashing framework database warehouse from BigQuery to Snowflake, leading to the smooth decommissioning of BigQuery and a seamless transition to Snowflake
  - Enhanced the reliability and quality of data by optimizing Python code used in the hashing process and Snowflake queries
  - Achieved >70% coverage on unit tests, ensuring robustness throughout the framework
  - Uplifted the hashing framework to QA, UAT, and production, enabling thorough testing and validation
  - Configured Control-M jobs for seamless integration of the end-to-end pipeline ETL process, encompassing on-prem to GCP and Snowflake, as well as facilitating smooth Bamboo code deployments

Software Engineer Intern; *Charles Schwab – Wealth & Asset Management Engineering*   **June 2022 – Aug 2022**
- Developed a cutting-edge governance application using Angular 9, C# .NET Core 3, and SQL Server, empowering Schwab's local governance coordinators and board members to efficiently manage architecture requests submitted by engineering and developer teams through Jira.
- Leveraged the Jira REST API to seamlessly retrieve ticket information, enabling coordinators to submit subtasks and comments to an issue effortlessly.
- Designed and developed a user-friendly and intuitive UI with multiple views, simplifying the process of searching for an issue, scheduling a review, and storing the review time in the database.
- Implemented features to assign reviewers to the review process and seamlessly record their votes in the database, enhancing the efficiency and accuracy of the governance application.
- Implemented a highly efficient 3rd Normal Form Data Model to streamline the management of personal information, review schedules, selected voters/reviewers, voting results, and stipulations. Utilized associative tables and foreign key relationships to reduce redundancy.
- Implemented an intuitive email notification system, facilitating seamless communication between architects and coordinators in various contexts, using SMTP.
- Employed route guards and Single Sign-On (SSO) authentication to ensure secure access for different WAME security groups.
- Revolutionized the governance process by automating previously manual procedures involving in-person delegation, resulting in a more efficient and streamlined workflow.

Course Assistant; University of Colorado Boulder College of Engineering
- Artificial Intelligence (CSCI 3202)   **Jan 2023 – May 2023**
  - Supported students in learning AI algorithms with Python such as path finding, Bayesian Networks, reinforcement learning, Hidden Markov Models, and game theory
- Software Development (CSCI 3308)   **Aug 2021 – Dec 2021**
  - Assisted students in building web applications using HTML, CSS, JavaScript, bootstrap, NodeJS, Express JS, Docker, PostgreSQL, REST APIs, and Heroku.

NSF-REU; National Science Foundation; Utah State University   **May 2021 – July 2021**
- Conducted research in engineering education and its applications to topics in fluid dynamics for an ONR funded project: "Mobile Instructional Particle Image Velocimetry (mI-PIV). Developed a Teach Engineering activity for a vortex generator experiment.

- Selected from 10% of all applicants by NSF

Projects

Optimized Health Full stack smart health web application built with NodeJS, PostgreSQL, and the Spoonacular nutrition API.

DNS Resolver Designed and programmed a multi-threaded DNS resolver in C using thread synchronization methods. Scored highest multi-threaded speedup of all submissions

HTTP Web Proxy Designed and programmed a multi-processed HTTP Web Server in C that handles simultaneous client connections, as well as keep-alive socket functionality. Servers web pages from remote hosts or from local cache within specified timeout range.

Distributed File Server Designed and programmed a multi-threaded distributed file server that receives client requests to GET, PUT, and LIST a number of files distributed by chunks across multiple servers, constructing the whole file as requested.