

VISHWANATH SESHAGIRI

vishwanath.seshagiri@emory.edu • Website • Distributed Systems Researcher @ Emory

WORK EXPERIENCE

Applied Science Intern @ AWS

May - Aug 2022

Worked with the S3 team on discovering solutions for a new large scale distributed back-end services using Rust.

Research Intern @ Katana Graph Inc.

May - Aug 2021

Architected, Developed and Deployed a product wide Distributed Tracing System by modifying OpenTracing and Jaeger. Collected traces to improve the query performance across different partitions by 10%.

Instructor @ Emory University

Spring 2021

Responsible for teaching, and developing course material for CS130R Introduction to Python Programming Course.

Received 80% student satisfaction rating in Course Evaluations.

Teaching Assistant @ Emory University

Aug 2019 - Present

CS453 Security in Fall 2019, CS326 Algorithms in Spring 2020 and CS377 Databases in Fall 2022

Python Developer @ UMM Digital

Sep 2018-Jun 2019

Worked as a Python Developer for Review Management Platform called Zceppa that leverages reviews aggregated using Facebook Graph API, Google MyBusiness API and 10 other platforms. Created the architecture for the API based on Microservice Architecture Principles, and developed the Data Pipelines using Celery with RabbitMQ Backend. Scaled the system to handle 100+ small businesses.

Backend Developer @ Warhorse Education Pvt. Ltd.

Aug 2017-Jun 2018

Worked as a Backend Developer for Internal Online Systems of Warhorse. Implemented Collaborative Filtering based Recommender System for Test Taking Module. Structured the Coding Course taught to Students. Used Python Library Surprise, Word2Vec Models, and borrowed concepts from Computational Pedagogy for building the Test Taking Module.

EDUCATION

Emory University

2019 - Exp. 2024

PhD in Computer Science @ SimBioSys Lab. *PIs: Dr. Ymir Vigfusson, Dr. Avani Wildani*

College of Engineering Guindy, Anna University

2014-2018

B.E. Computer Science and Engineering. Thesis: *Multi Instrument Music Track Generation using GANs*. PI: Dr. A.P Shanti

PUBLICATIONS

- **Vishwanath Seshagiri**, Lei Zhang, Avani Wildani and Ymir Vigfusson *Heimdall: Assisted Root-Cause Localization of Symptomatic Performance Problems via Distributed Tracing*. In Preparation
- Pranav Bhandari, **Vishwanath Seshagiri** and Avani Wildani *Turning the Storage Hierarchy On Its Head: The Strange World of Heterogenous Tiered Caches*. Under Review
- **Vishwanath Seshagiri**, Darby Huye, Lan Liu, Avani Wildani and Raja Sambasivan *Identifying Mismatches Between Microservice Testbeds and Industrial Perception of Microservices*. Journal of Systems Research (Jsys) 2022.
- **Vishwanath Seshagiri**, Abigail Julian and Avani Wildani *Clustering Workloads for Storage Optimisation*. USENIX Conference on File and Storage Technologies (FAST) 2020. [WiP+Poster]
- Vidya Janarthanam, V., **Vishwanath Seshagiri**, Shanthi, A.P. *A biologically plausible network model for pattern storage and recall inspired by Dentate Gyrus*. Journal of Neural Computing and Applications. 2020.

PROJECTS

TweetIt: Analyzing Topics for Twitter Users to garner Maximum Attention

RESEARCH

Obtained the Tweet Data based on the Hashtag, and profiled it to understand the psyche of the user. Wrote an indexing algorithm for clustering the user profiles based on similar topics in their tweet. Code: GITLAB

Dalalbull: A Fuzzy Logic Based Stock Market Simulator for Behavioural Analysis

PROJECT

Built the application in Python (Flask) with Redis DB. Wrote an algorithm for generating the news based on Fuzzy Logic and used Weiner Process to determine the price fluctuations of a stock at any given point of time. Scaled the system to handle 500 concurrent requests. Code: GITLAB

SERVICES

- **Artefact Evaluation Committee:** OSDI'22, ATC'22, SOSP'21
- **Assistant Editor:** Journal of Systems Research

SKILLS, AND TOOLS

- **Tools & Platforms:** Python, C++, Rust, Docker, AWS, Azure, Linux, OpenTracing, Jaeger, Kubernetes, Jenkins, Terraform, Consul, Jaeger, Facebook Graph API.
- **Interests:** Distributed Systems, DevOps, Operating Systems, Microservices, Graph Databases, Distributed Tracing, Caching, Programmable Hardware