

Himanshu Shishir Shah

(Current CS graduate student | Software Engineer with 2 years of experience)

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EXPERIENCE

Viant Technology, Irvine, CA

Jun 2023 – Dec 2023

Full Stack Intern | [read more](#)

- Developed a feature for extracting audio from videos using [AWS MediaConvert](#), [SNS](#), [DynamoDB](#), and [EventBridge](#) to increase the bid eligibility of video creatives; **achieving an estimated 15% lift in generated revenue**
- **Saved 8+ engineer hours (per use)** by automating the process of adding new third-party segments using [Angular](#), [Golang](#), [AWS Lambda](#), [APIGateway](#), and [S3](#)
- **Improved performance** of existing Python scripts **by 30x** on average using [Codon](#), **reducing costs by at least 15x**

Visible Alpha, Mumbai, India

Mar 2022 – Jun 2022

Software Engineer 2, Data Feed and APIs | [read more](#)

- Engineered the framework for adding [Snowflake](#) as a data delivery channel using [Falcon](#), [Python](#), and [MySQL](#), **increasing the generated revenue by 45%** and **reducing the Time To Value**
- Built APIs to **reduce the average tech-support turnaround time by 80%** from **10 to 2 minutes**
- Revamped the file dispatcher microservice to **reduce the number of open SSH connections by 5x** using [Paramiko](#)
- Implemented a dashboard to report daily file generation and dispatch metrics to aid Support Team in monitoring failures

Visible Alpha, Mumbai, India

Jun 2020 – Feb 2022

Software Engineer 1, Data Feed and APIs | [read more](#)

- **Migrated the existing monolithic ETL application** to a **microservice-based** implementation, delivering high-volume, real-time data to clients with low latency, using [Django](#), [MongoDB](#), and [Redis](#), driving \$2 million in revenue
- **Optimized file dispatch latency by 80%** using [RabbitMQ](#) & [Celery](#) for asynchronous task execution (**60 to 10 seconds**)
- Designed and added [REST APIs](#) and [AWS S3](#) as data delivery channels to **ease data consumption** for clients
- Solved complex performance problems by resolving production issues, gaining exposure to dealing with large-scale software design issues, and avoiding performance bottlenecks

IIT Bombay, Mumbai, India

Oct 2019 – Jun 2020

Research Intern, Front-End for Synergistic Program Analyzer (SPAN) | [read more](#)

- Devised a high-level language (*specDFA*) to allow non-programmer users to **specify data flow analyses intuitively**
- Implemented a transpiler using [ANTLR](#) and [Java](#) to convert *specDFA* to Python and integrated it within SPAN
- Researched existing literature to learn about static program analyzers and data flow analysis such as Liveness Analysis, Available Expression Analysis, etc.

Mastek, Navi Mumbai, India

Jun 2019 – Jul 2019

Project Trainee | [read more](#)

- Developed an internal help-desk mobile app using [Angular 8](#), [MySQL](#), [HTML](#), and [CSS](#), allowing employees to **log trouble tickets more conveniently** than its desktop counterpart. Used Apache Cordova to convert it to a mobile app
- Added a search functionality within the app to allow employees to **easily find the tickets** they raised

EDUCATION

University of California Irvine, Irvine, CA

Sept 2022 – Dec 2023

Master of Computer Science | Course Assistant for Computer Networks (EECS 148) | GPA: 4.0/4.0

Coursework: Algorithms, Parallel and Distributed Computing, Machine Learning and Data Mining, Compilers

K J Somaiya Institute of Technology, University of Mumbai, Mumbai, India

Aug 2016 – Oct 2020

Bachelor of Engineering in Computer Engineering | GPA: 8.96/10.0 (3.71/4.0)

Coursework: Databases, Computer Networks, Web Development, Cloud Computing, Big Data Analytics, Operating Systems

PROJECTS

Crontab Manager – Python, Angular | [read more](#) | [link](#)

Jul 2023 – Present

- Creating a UI to allow users to create, update, and delete cron jobs on the host and any [Docker](#) containers running on it

TableGen Formatter – C++, Compilers | [read more](#) | [link](#)

Jan 2023 – Jun 2023

- Extended *Clang-Format* to support formatting of TableGen files with several configurable formatting style options
- [Accepted](#) for presenting a Technical Talk at the [2023 LLVM Developers' Meeting, Santa Clara \(Oct 10-12\)](#)

Tweet Sentiment Analysis – *Deep Learning, Machine Learning, NLP* | [read more](#) | [link](#)

Mar 2023 – Apr 2023

- Classified sentiments of **1.6 million** tweets as *positive* or *negative* with **82.24% accuracy** by building PyTorch models
- Compared the model performance with other models such as 1D CNN, and RNN
- Analyzed and visualized data to perform data cleanup and build preprocessing pipelines

DNS Server – *C++, Computer Networks* | [read more](#) | [link](#)

Feb 2023 – Mar 2023

- Implemented a DNS server that recursively resolves a domain name and supports multiple record types
- Researched the original DNS specification to understand the message formats and learned about *dig* and *nc* commands

SMPL Compiler – *Python, Compilers* | [read more](#) | [link](#)

Jan 2023 – Mar 2023

- Constructed a compiler for *SMPL* programming language which includes arrays and user-defined functions
- Added optimizations such as Copy Propagation, Common Subexpression Elimination, and Dead Code Elimination
- Implemented a global register allocator by tracking live ranges of individual values and building an interference graph
- Built a transpiler to convert optimized IR into Dot language and displayed the final output as a graph using GraphViz

Orca Call Detection – *Machine Learning, Deep Learning* | [read more](#)

Jan 2020 – Apr 2020

- Built a CNN model using Keras to identify Orca whale calls and detect their pods using audio samples and displayed its effectiveness when combining it with template matching, resulting in **92% model accuracy**
- Published and presented a [technical paper](#) in SSRN – Elsevier, 2020

SKILLS & INTERESTS

- **Languages & Frameworks:** Python, Golang, C++, Java, TypeScript, Codon, HTML, CSS, Django, Falcon, Angular, LLVM
- **Databases, Caching & Message Queues:** MySQL, MongoDB, Snowflake, Redis, RabbitMQ
- **Testing:** Pytest, Sentry, JMeter, Cucumber, Postman, SonarQube, Unit testing, Load testing, TDD, BDD
- **Cloud:** AWS (S3, EC2, DynamoDB, SNS, Lambda, MediaConvert, EventBridge, CloudWatch, APIGateway)
- **DevOps & Misc:** Git, CI/CD, Docker, Jenkins, OOP, REST APIs, Linux, Unix, Microservices, Distributed Systems, Back-end
- **Interests:** [Vinyl Record collecting](#), Badminton, Table Tennis, [Writing TIL posts](#)