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 lift of **25%** in generated revenue
- Added an upload functionality in the UI to automate the process of adding third-party segments to the database using Angular, Golang, AWS Lambda, APIGateway, and S3, saving **8+** engineer hours
- 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, Snowflake, MySQL, and AWS S3, 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
- Overcame architectural challenges associated with a monolithic design by implementing a microservice-based enterprise fintech ETL application. The solution delivers high-volume, real-time data to clients with low latency, using the latest technologies such as Django, MySQL, MongoDB, and Redis, driving $2 million in revenue
- Optimized file dispatch latency by **90%** using RabbitMQ & Celery for asynchronous task execution (**60** to **10** seconds)
- Designed REST APIs and added 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 with Applications, Machine Learning and Data Mining, Compilers, Text Processing

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: Algorithms, Databases, Web Development, Cloud Computing, Big Data Analytics, Operating System

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 <u>Docker</u> 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
- Proposal accepted for LLVM 2023 Developers' Meeting for a short technical talk

Tweet Sentiment Analysis – *Deep Learning, Machine Learning, NLP | [read more](#) | [link](#)*   Mar 2023 – Apr 2023
- Built a Deep Learning model using <u>PyTorch</u> to classify the sentiment of a tweet as *positive* or *negative* using a dataset of over *1.6 million* tweets
- 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*   Jan 2020 – Apr 2020
- Built a CNN model using <u>Keras</u> 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 (ssrn.com/abstract=3572303)

SKILLS

- Python | C++ | Golang | JavaScript | HTML | CSS | Django | Falcon | Angular | MySQL | MongoDB | Redis | Snowflake
- Cucumber | Pytest | JMeter | Postman | SonarQube | Unit Testing | Load testing | TDD | BDD
- Git | CI/CD | AWS (S3, EC2, DynamoDB, SNS, Lambda, MediaConvert, EventBridge, CloudWatch, APIGateway)
- CMake | Docker | Jenkins | Sentry | Graylog | RabbitMQ | Celery | pandas | NumPy | Codon
- Linux | LLVM | Distributed Systems | Microservices | OOP | REST API | Back-end | Full-stack | Agile