Himanshu Shishir Shah

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EDUCATION

University of California, Irvine, Irvine, California   Sept 2022 – Dec 2023
Master of Computer Science | GPA: 4.0/4.0
Coursework: Algorithms with Applications, Compilers, Machine Learning and Data Mining

K J Somaiya Institute of Technology, University of Mumbai, India   Aug 2016 – Oct 2020
Bachelor of Engineering in Computer Engineering | GPA: 8.96/10.0 (3.71/4.0)
Coursework: Advance Algorithms, Web Design, Compiler Construction, Operating Systems, Database Management Systems

TECHNICAL SKILLS

Languages: Python, C, C++, SQL, HTML, CSS
Databases: MySQL, MongoDB (NoSQL), Redis
Cloud: Amazon Web Services (S3, EC2, RDS), Snowflake

Web frameworks: Django, Falcon, FastAPI, Laravel
Libraries & OSes: pandas, NumPy, Celery, Linux, MacOS
Other software: Docker, Jenkins, RabbitMQ, Sentry, Git, SonarQube, Jira

EXPERIENCE

Visible Alpha, Mumbai, India
Software Engineer 2 – Data feed and APIs | *read more*   Mar 2022 – Jun 2022
- Architected the framework for adding Snowflake as a delivery channel for the Data feed product using the Falcon web framework
- Achieved a 400% reduction in turnaround time and a 50% reduction in the escalation of support tickets by developing support APIs using the Falcon
- Revamped the file dispatcher microservice to reduce the overall number of connections created
- Developed a monitoring dashboard to report daily file generation and dispatch metrics
- Documented the Data Feed and Snowflake projects using the Sphinx documentation generator
- Tech stack – Falcon, Snowflake, Sphinx, JavaScript

Visible Alpha, Mumbai, India
Software Engineer 1 – Data feed and APIs | *read more*   Jun 2020 – Feb 2022
- Collaborated in an Agile team with 5 team members to develop an ETL (Extract, Transform, Load) application using Django to extract, restructure, and deliver financial data that powered real-time applications of over 30 clients
- Optimized data dispatch performance by 250% by using RabbitMQ and Celery for asynchronous task execution
- Improved accessibility and consumption of data by adding support for multiple delivery channels such as Amazon S3 buckets, and REST APIs
- Augmented error logging by leveraging the latest features of Sentry and info logging by implementing a global logger, saving 25% of the team's time spent on debugging and bug fixes
- Tech stack – Python, Django, MySQL, MongoDB, Redis, Git, Docker, Jenkins, Amazon S3, Sentry, Celery, RabbitMQ

Indian Institute of Technology Bombay, Mumbai, India
Research Intern – Front End for Synergistic Program Analyzer (SPAN) | *read more*   Oct 2019 – Jun 2020
- Learned about data flow analyses such as Available Expressions, Constant Propagation, and static program analysis
- Devised a high-level language (specDFA) to allow non-programmer users to specify data flow analyses intuitively
- Added compatibility for specDFA in SPAN by implementing a source-to-source compiler to convert a specDFA specification into an equivalent analysis in Python

PROJECTS

TableGen Formatter – *C++, Compilers | (In progress) | code*
- Developing an efficient formatter for TableGen language to format *.td* files according to the configuration provided (similar to *clang-format*)
- The aim of this project is to integrate formatting of *.td* files within *clang-format*, and to add as many formatting options for TableGen as possible

SMPL Compiler – *Python, Compilers | (In progress) | code | read more*
- Constructing an optimizing compiler for *SMPL* programming language that includes array operations and user-defined functions
- Performing optimizations such as copy propagation, common subexpression elimination and dead code elimination
- Built an IR visualization tool to generate a graph visualization of the SSA-based IR generated by the compiler front-end

DNS Server – *C++, Computer Networks | (In progress) | code | read more*
- Implementing my own DNS server with the goal to gain a deep understanding of the DNS protocol and how DNS servers resolve domain names and getting familiar with the dig and nc commands

Orca Call Detection using CNN and Spectrograms – *Machine Learning, Deep Learning*
- Built a CNN model to identify calls made by Orca whales and detect their pods using audio samples; displayed its effectiveness when combining it with template matching, resulting in 92% model accuracy
- Presented and published a technical paper in SSRN – Elsevier, 2020 (Orca Call Detection using CNN and Spectrograms, https://ssrn.com/abstract=3572303)