

HARESH KHANNA

Staff Software Engineer at Prophecy.io | Ex - Microsoft, Adobe

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📍 Bengaluru, India

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EXPERIENCE (5 YEARS)

PROPHECY.IO (Low code visual IDE for Spark, SQL & Airflow)

Staff Software Engineer

📅 July 2022 – Present

📍 Bengaluru, India

- Spearheaded the development of the low-code SQL IDE from its inception. Instrumental in developing pioneering features such as **JIT output schema analysis** for visual components and **code-to-visual conversion** involving parsing SQL code with Jinja and converting it into visual pipelines, supporting **5 SQL dialects**.
- Designed and implemented visual snapshots (SCD2), unit testing, and data sources within the SQL IDE to enhance the low-code experience for users.
- Built dependency resolution for the SQL IDE to handle pinned and unpinned project dependencies across various sources - Git, DBTHub and Tarballs.
- **Led a team of 3 engineers** and built the data copilot, enabling conversion of natural language prompts into visual pipelines, prediction of expressions, generation of component descriptions & labels, and fixing of errors using **LLMs & AI Agents**.
- Reduced the **P90 expression prediction latency to 800ms** with **>85% accuracy**.
- **Enhanced CI build efficiency by 40%** through build caching in CircleCI and test suite reorganization, resulting in a **65% reduction in overall CI costs**.
- Delivered important metadata features like access-control enhancements and project cloning involving git, storage & file-server and GraphQL.
- Actively participated in hiring initiatives conducting **80+ technical interviews** across all levels.

MICROSOFT (Insider Risk Management)

Software Engineer 2

📅 July 2019 – July 2022

📍 Hyderabad, India

- Spearheaded development of Insider Risk Management solution since inception, facilitating detection and mitigation of malicious employee activities.
- Implemented datatype-based partitioning, sharding and parallel Spark actions using consistent hashing to **increase the write throughput by 250%**.
- Designed and implemented on-demand user reports allowing org admins to risk-assess employees not flagged by the system.
- Built an ETL & aggregation platform from scratch using stream and batch processing to provide insights on **billions** of audit and mail metadata events daily.
- Used Apache Spark, Azure Data Lake Storage, Azure Data Factory, Azure Event Hubs, Azure Durable Functions, Service Fabric, CosmosDB and .NET Web APIs.

ADOBE (Research Lab)

Research Intern

📅 May 2018 – July 2018

📍 Bengaluru, India

- Researched the privacy and utility trade-off in business-to-business data sharing. Came up with a novel method based on generative models using neural networks to achieve varying degree of control during data sharing.

ELANIC

Android Development Intern

📅 Dec 2017 – Jan 2018

📍 Bengaluru, India

- Developed an android library for creating collages in a dynamic grid layout similar to Layouts by Instagram where the individual images and grid-lines can be re-sized, moved, panned and zoomed.

PUBLICATIONS

Data-Sharing Economy: Value-Addition from Data meets Privacy | 14th ACM conference on Web Search and Data Mining(WSDM), 2021

EDUCATION

BACHELOR OF TECHNOLOGY

Indian Institute of Technology Roorkee (IITR)

📅 Jul 2015 – May 2019

Major : Computer Science and Engineering

GPA : 9.06/10

SKILLS

Scala, Java, Python, C#, C++, Git, Spark, SQL, DBT, GraphQL, LSP, Websockets, Akka Actors, FastAPI, Kafka, Elastic Search, EventHubs

PROJECTS

In-band real time text

- Implemented XMPP XEP-0301 protocol in Java for Conversations.im.
- Real time texting capability preserving key-press intervals between message types, edits and deletes.

Artistic low-poly image rendition

- An application to convert images to a coloured triangulated form using OpenCV and self-implemented algorithms. Implemented : **Gai, M. and Wang, G. Vis Comput (2016) 32: 491.**

Android SMS Server App

- Made an **SMS server** android app to send and receive network requests as an SMS.

Stroom

- Implemented a music player to play audio in-sync across various devices on a local network, dealing with syncing and clock differences.

Tiny compiler in OCaml

- Compiler for a self-defined minimal language which converts the code into NAZM assembly, finally converting it into a x86 executable.

ACHIEVEMENTS

- **ACM ICPC - 2015** | Selected for Regionals
- **Google Summer of Code - 2017** | Conversations.im
- **Indian Govt's Smart India Hackathon - 2017** | Finalist
- **InOut hackathon 3.0 - 2016** | Top 7 among 39 teams
- **JEE - 2015** | Ranked 392 among 1.5million candidates
- **KVPY & NTSE Scholarship Awardee** | Govt. of India

EXTRA-CURRICULARS

UG Teaching Assistant | Data Structures
Mentor | Student Mentorship Program, IITR
Member | Mobile Development Group, IITR
Web Head | ACM Student Chapter, IITR
Editor | WatchOut(News Magazine), IITR
Volunteer | National Service Scheme (NSS)