Abhilash Sampath

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EDUCATION

- **University at Buffalo** — Buffalo, NY
  Master of Science - Computer Science; GPA: 3.83 — *Aug 2022 - Dec 2023*
  Courses: *Analysis Of Algorithms, Distributed Systems, Reinforcement Learning, Computer Vision*

- **Visvesvaraya Technological University** — Bengaluru, India
  Bachelor of Engineering - Computer Science; GPA: 3.36 — *Aug 2016 - Aug 2020*

SKILLS SUMMARY

- **Programming and Markup Languages**: Python, TypeScript, Javascript, Golang, Java, HTML, CSS
- **Frontend & UI Libraries**: React, Bootstrap, MaterialUI, AngularMaterial, Ant
- **Frameworks**: Scikit, TensorFlow, PyTorch, Keras, Angular, Node.js, NestJS, NextJS
- **Cloud Services**: AWS, Azure
- **Tools**: Docker, GIT, Postman
- **Platforms**: Linux, Windows

EXPERIENCE

- **Surya Software Systems Pvt Ltd**
  Software Development Engineer II — *Sep 2021 - Aug 2022*
  - **Full-stack code generator**: Led a team of 4 and developed a code generator for the full-stack, accelerating development by **22%**. The code is generated for front end layouts and APIs based on the DB schema.
    Tech: React, NextJS
  - **Wrapper Library**: Based on company's design standards, independently developed and published a Wrapper for React and Fluent UI on npm for company-wide usage, reducing the development time by **20%**.
    Tech: TypeScript, React, FluentUI, npmCLI
  - **WebApp Migration Architecture**: Architected the prototype of a proprietary product to migrate from .NET to React.

- **Surya Software Systems Pvt Ltd**
  Software Development Engineer I — *Sep 2020 - Aug 2021*
  - **Web application for hospitals** : Single-handedly developed a real-time hospital management application for multiple user personas and delivered the application in **6 months**. Tech: Angular,Angular Material, NestJS, MySQL, Jest, Docker, SocketIO, TypeORM
  - **Migrate from HTTP to RPC.**: Leveraged gRPC to migrate the Ktor API to make it highly interoperable, resulting in **28%** increase in communication speeds between the company systems.
    Tech: Kotlin, Ktor, Angular, gRPC
  - **Reverse Proxy and Load Balancing**: Reduced latency by **15%** on the development server using nginx.
    Tech: Kotlin, Typescript
  - **Ktor API POC**: Developed a proof of concept in proposing for the organization's migration of frameworks from Entity Framework Core to Ktor.
    Tech: Kotlin, Ktor, ExposedORM
  - **Connection Pooling**: Improved the query response time by **18%** using HikariCP and JDBC for a development server.

PROJECTS

- **Face and Gender Recognition with Sentiment Analysis - Computer Vision**: (March '23)
  Tech: Python, OpenCV, scikit-learn

- **k-DHT Distributed Hash Table**: Built a distributed hash table based on the Kademlia paper.
  Tech: Golang (March '23)

- **AWS Deep Racer - Reinforcement Learning** : Designed and developed a custom reward function using Huber Loss to achieve a **100%** completion with the best lap time of **22s**, ranking **147/3196**. (November '22)
  Tech: Python, AWS

- **Algorithmic Trading Strategy** : Developed a trading strategy for intraday equity trades to yield a minimum return of **10%** in a trading year and maximum returns going as high as **30%** for TSLA stocks faster. (October '22)
  Tech: Python, AlphaVantage.

- **Proximal Policy Optimization - Reinforcement Learning**: Implemented PPO algorithm from scratch to solve OpenAI gym enivironment Bipedal Walker with an average score of 300 over 100 episodes (September '22)
  Tech: Python, OpenAI Gym, PyTorch