

# Yogesh Arjun Kumar

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A **language agnostic** programmer with **8 years** of experience in Software Engineering and **4 years** of experience in Machine learning – an ardent believer in AI being weaved into all aspects of programming and engineering.

## EDUCATION

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### Northeastern University

Master of Professional Studies, **Enterprise Artificial Intelligence**

Boston, Massachusetts

**December 2022**

### Anna University

Bachelor of Technology, **Information Technology**

Chennai, India

**May 2016**

## PROFESSIONAL EXPERIENCE

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### Information Technology Scientist

[Digital, Data and Design Institute](#) @Harvard

Boston, Massachusetts

**January 2023 – Present**

- Designed, and engineered a data platform for the institute on AWS with **differential access**. As a cloud architect improved the efficiency of **scaling** experiments from research to production by **80%** and reducing the **time by 50%**.
- Built **ETL** pipeline to migrate **big data** from legacy on-prem to a query efficient data catalogue on the cloud.
- Spearheaded the enhancement of source control management and deployment practices and establishing a framework for the building modular data science solutions, successfully boosting research **throughput by 70%**.
- Experimented and innovated a generative AI based simulation process with GPT-4, Claude, and Llama 2 to equate creativity of LLMs vs Humans (Cyborgs vs Centaurs [paper](#)). This automation improved **productivity by 320%**.
- Lead a team in cutting edge domain specific LLM development resulting in a white paper (Codename: CRISP-LLM). Process involved **Retrieval Augmented Generation**, Vector DBs, PEFT based **QLoRA** and Prompt Engineering.
- Technology Mentor** for the Startup Observatory, consulting with budding entrepreneurs on Tech Stack and engineering.

### Research Assistant and Program Manager

[IoT Open innovation labs](#) @Northeastern University

Boston, Massachusetts

**July 2021 – December 2022**

- Spearheaded development of a dynamic job marketplace with **full stack** engineering and **CI/CD pipeline**, deployment and observability on the infrastructure side.
- Architected** a cloud solution and engineered an analytics engine which consumed clickstream and user data on multiple fronts (custom designed, google analytics and Microsoft clarity).
- Played a pivotal role in defining and creating an **A/B test embedded** research experiment platform.
- Lead a team of four, skillfully crafting a work breakdown structure to optimize task allocation and efficiency. Established clear agile **milestones** and a strategic **roadmap** to guide project progression.

### Software Development Engineer Coop

Amazon Robotics

Boston, Massachusetts

**January 2022 – June 2022**

- Developed an automation designed to perform **robotic operation simulations**, significantly enhancing the accessibility of existing services which reduced the manual simulation permutation runtime by **75%**.
- Designed a machine learning optimizer based on the **finite difference** method for gradient descent. This was orchestrated to generate optimal parameters and configurations for designing warehouse floor plans significantly reducing **planning costs**.
- Skillfully fabricated a robust sidecar service within **AWS Batch** container service. This involved **breaking down** building blocks of containerization to redesign a highly efficient, automated environment for the existing containerized service.

### Senior Software Engineer

Kloudone Inc.,

Chennai, India

**Oct 2019 – Dec 2020**

- Product lead and Training lead for the organization with trainee graduation cadence of 30 per month.
- Successfully implemented a SASS application utilizing a diverse tech stack including **React.js**, **Gatsby**, and **Flutter** for iOS and Android. Contributed to web and cross platform development with **2x resource** productivity.
- As a Product Engineer lead a product design sprint, defining the **PRD** and framing the Roadmap.
- Orchestrated the infrastructure setup on Google Cloud Platform, engineering Observability and application security.

## SKILLS

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- Languages:** Python, R, Go, JavaScript, Typescript, Dart, Java, C, C++, C#, Swift, Kotlin
- Services:** Frontend JS frameworks, Cross platform frameworks, Spring Boot, Gin Gonic, Node.js, Docker, Pandas, SkLearn, Keras, Tensor Flow, PyTesseract, R Shiny, PyTorch, NLP, CV, LLM, Reinforcement Learning, Kibana

## PUBLICATIONS

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[Health Monitoring Systems by Prognostic Computing using Big Data Analytics](#)

2015