OMKAR POTE

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Education

Indian Institute of Technology, Madras   **July 2016 – May 2020**
Bachelor of Technology in Chemical Engineering   *Chennai, India*

Technical Skills

Primary Skills: Java Spring Boot, RESTful services, OOP, SOLID principles, System Design, C++, Microservices, Kubernetes

Languages: Java, C/C++, Python, Javascript, Scala, Bash Shell scripting, LaTeX

Big Data: ETL, Spark, Databricks, AWS (EC2, S3, EMR), Hadoop, MySQL, MongoDB, Neo4j

Technologies/Frameworks: OpenMP, Parallel programming, RabbitMQ, Redis, Hibernate, Apache Nifi, Thrift, NewRelic, Camunda, BPMN Workflows, Payment gateways, Junit/Mockito, NodeJS, ReactJS, HTML/CSS

Experience

iACE Lab @ IIT Madras   Oct 2023 – Present
Project Scientist

- Working in the Intelligent Applications in Chemical Engineering (iACE) Lab under Prof. Rajagopalan Srinivasan. Current research focus: XAI in Process Systems Engineering.
- Exploring Interpretable and Explainable AI techniques for multivariate time series classification, in a chemical engineering context.

HILCPS Lab @ IIT Madras   Oct 2023 – Present
Software Consultant

- Concurrently involved with the Human-in-the-Loop Cyber-Physical Systems (HILCPS) Lab, led by Prof. Babji Srinivasan.
- My main responsibility here is to guide the research group on implementing enterprise-level best practices and team values.
- This involves conducting code reviews and interactive sessions covering various aspects of software engineering, including collaboration, agile methodologies, version control, and code hygiene.

Capillary Technologies   May 2020 – Sep 2023
Software Developer, Payments   *Dec 2021 – Sep 2023*

- Designed and implemented POTATO (Over-The-Air Transactions Orchestrator), a robust and comprehensive solution that facilitates seamless, cashless fuel transactions at gas stations.
- Executed the entire development process, constructing the microservice architecture including a Spring Boot-based application and databases using MySQL and MongoDB.
- Built highly secure REST APIs for communication with Payment Service Providers and fuel stations.
- Continually optimized the system performance, which leverages RabbitMQ to efficiently handle real-time transactions, accommodating a user load exceeding 10,000 per minute.
- Additionally, took charge of instituting a CI/CD pipeline and implementing real-time monitoring systems to ensure optimal functionality.

Big Data Engineer, Extract-Transform-Load (ETL)   *Oct 2020 – Nov 2021*

- Contributed to feature development and optimization of the in-house data warehousing and ETL system managing Capillary's flagship CRM and BI tool, processing over 6 billion new daily records.
- Managed ETL processes using Spark clusters on AWS Elastic Map Reduce (EMR), including data cleaning, transformation, and the generation of a star schema-based model with facts, dimensions, and KPIs.

Intern   *May 2020 – Sep 2020*

- Built internal developer tools to handle the ETL process. This includes GUIs for end-to-end control and monitoring of executions from Neo4j, where the queries are stored as a Directed Acyclic Graph.

Tesco   **May 2019 – Jul 2019**

Software Engineering Intern
- Automated Tesco's food donation system by eliminating a labor-intensive step in stock management, optimizing processes for 2500+ stores and 6000+ charities.
- Developed a Donation Assistant API for product classification, implemented an Apache Nifi and Python Flask based pipeline, reducing administrative workload by 20%, and enhanced donation accuracy/relevance by over 15% through data analysis using R tidyverse package.

Crest IT Consulting   **Jun 2018 – Jul 2018**

Web Development Intern
- Took up a complete rebranding initiative for the company, involving the development of a new website, logo, and brand identity. Check out the results at crestit.in.

Activities and Projects

Projects
- **Yuj (formerly Caval):** Contributed as a founding team member for this IITM-based startup, which provided doorstep vehicle repair services. Led the development of the entire branding, logo, website, app, and other marketing materials.
- **ChemClave:** Created the ChemClave 2017 website as part of the WebOps team, for the annual event organised by the Chemical Engineering Society (CheS) of IIT Madras.
- **Cuckoo Dooku:** Developed a Star Wars themed, open source Chrome extension for productivity. Received a commendation in the FOSS hackathon 2021. See github.com/omkrpt/cuckoo-dooku
- **Snake Game:** Coded the game from scratch as a high school project. See omkarpote.com/#snake

Graphic Design
- **Technical Proficiency:** Skilled in graphic design using the Adobe Suite including Photoshop, Illustrator, Premiere Pro and Indesign
- **Freelance Experience:** Freelanced for various clients from Dec'16 to Aug'18. Portfolio at behance.net/omkarpote
- **Head of Design, Entrepreneurship Cell, IIT Madras:** Led a team of 16 designers and associate designers, developing creative content for digital and printed media, over the course of two semesters.
- **Inter IIT Sports Meet:** As part of the organising team of the 2017 edition, designed marketing content, venue setups and ambience for the tournament.

Extracurriculars
- **Department Football Team Captain:** Led the Chemical Engineering department football team to a third-place finish in the IITM Inter Department League 2018-19.
- **Karate Achievements:** Black belt holder with numerous accolades and medals on the national level, showcasing over 11 years of dedicated practice.
- **Music Certification:** Successfully cleared ABGMVM's Hindustani Classical Music Exam with an impressive score of 45/50.