Shashank Rangarajan

ML Intern @ Intel | MSCS @ USC | Ex-Amazon SDE
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Objective

Experienced software developer with a strong foundation in machine learning and a proven track record of delivering production-grade ML solutions that scale. Seeking challenging opportunities at the intersection of software and machine learning research to leverage my skills and drive impactful results.

Skills Summary

- **Languages**: Python, Java, JavaScript, TypeScript, SQL, C
- **ML Lib**: PyTorch, Tensorflow, PySpark, scikit-learn, Weka, HuggingFace, GenerativeAI - OpenAI, LangChain
- **MLOps**: Amazon - Sagemaker, EMR, Apache Airflow, MLflow, Iterative.ai - Data Version Control (DVC)
- **DevOps**: Docker, HAProxy, GitLab Runner, Amazon Fargate
- **Full-stack**: Flask, FastAPI, NodeJS, Spring, AWS - Lambda, API Gateway, React
- **Cloud**: AWS (S3, ECS, StepFunctions), GCP (BigQuery)
- **Database**: SQL - Amazon RDS, MySQL; NoSQL - Amazon DynamoDB, Couchbase, MongoDB

Work Experience — 3 Years

- **Amazon.com Inc.** — Karnataka, India
  Software Development Engineer (Full-time) — *Jun 2020 - Jul 2022*
  Team: Expresso - Delivers MLOps platform to accelerate experimentation and deployment of ML models
  - Designed system to productionize Apache Zeppelin notebooks into ETL step, successfully onboarded 1 production use case.
  - Re-architected legacy model re-training pipeline, ensuring 100% uptime while migrating 90+ production models.
  - Seamlessly transitioned production database to federated AWS accounts with 0-data loss and minimal availability impact.
  - Created a configuration panel, to seamlessly update production configurations without needing deployment.
  - Mentored 1 intern while developing a peer-review component that ensured safe updates to production grade systems.
  - Proactively addressed 100+ security risks, resolving SEV2s across 10+ production pipelines.

- **Motorola Mobility** — Karnataka, India
  Software Development Engineer (Full-time, Contractual) — *Sep 2019 - Jun 2020*
  Team: Over The Air updates (OTA) - Provides software upgrades for motorola devices world-wide
  - Launched smart updates for Motorola phones, ensuring seamless updates for over 100K devices.
  - Ideated the customer feedback feature into OTA app, enhancing user engagement and satisfaction.
  - Delivered a Game Recommender System for *Hello You* - a Motorola app, offering personalized experiences for users.
  - Led a team of 2 interns in creating a Log Analyzer for automatic call-drop detection using system logs, reducing ticket turn-around time by 30%.

Internship Experience — 1 Year

- **Intel Corporation** — California, USA
  Machine Learning Intern (Part-time - Aug'23 to Present; Full-time - May'23 to Aug'23) — *May 2023 - Present*
  Team: Analytics and Intelligence - Drives optimization of private-cloud infrastructure for Intel world-wide
  - Innovated a deep-learning based patch scheduler, cut machine blocking, and reduced wastage by 60%.
  - Streamlined experimentation with DVC-based MLOps pipeline, yielding rapid iteration & one-step deployment.
  - Leveraged LLM expertise, achieved a 30% performance boost by fine-tuning a BERT model to capture natural language features.
  - Developed a scalable model deployment framework using MLflow & Docker, with a centralized model registry, containerized model-serving API enabling rapid deployment across multiple locations.

- **Siemens Healthineers** — Karnataka, India
  Software Development Intern (Full-time) — *Jan 2019 - May 2019*
  Team: Computed Tomography (CT) - Develops CT applications for Siemens CT scanners
  - Created a tool to monitor 72+ test agents' health, reducing QA manual efforts by 10% approx.
  - Formulated SSE-based protocols for network calls in test agents, resulting in 0 polling traffic.

- **Philps Healthcare** — Karnataka, India
  Deep Learning Research Intern (Full-time) — *Jun 2018 - Jul 2018*
  Team: Radiology & Cardiology Informatics - R&D wing that continually improve Philips healthcare technologies world-wide
  - Constructed deep learning-based computer vision models to detect brain hemorrhage in CT scans, and validated models through reconstruction techniques like class-activation heat maps.
  - Leveraged pre-processing models (auto-encoders), and improved previous performance by 30%.

Research Experience

8 Months

- **University of Southern California** — California, USA
  Teaching Assistant (Part-time) — *Sep 2023 - Present*
  - DSCI-250: Introduction to Data Science for the Fall 2023 offering.

  Student Researcher (Part-time) — *Feb 2023 - Present*
  - Laboratory of Neuro Imaging (LONI), Keck School of Medicine (Feb 2023 - present): Leading a team of 5 engineers for NIH's Data Archive for the Brain Initiative (DABI), spearheading the development of the analysis pipeline and multiple backend components.
  - Vilesov Group, Chemistry Department (Feb - May 2023): Utilized Deep Learning to analyze X-Ray Diffraction in *He* bubbles, synthesizing data and developing estimation models for radius, intensity, aspect-ratio, and rotation.

Education

- **University of Southern California** — California, USA
  Master of Science - Computer Science; GPA: 4.0/4.0 — *Aug 2022 - May 2024 (Exp.)*
  M.S. Honors | **Courses:** Machine Learning, Algorithms, Natural Language Processing, Deep Learning

- **Sri Jayachamarajendra College of Engineering** — Karnataka, India
  Bachelor of Engineering - Computer Science; CGPA: 9.75/10 — *Aug 2015 - May 2019*
  University Rank 3 | **Courses:** Data Structures, Adv. Math, Operating Systems, Networks, Data Mining

Publication

- K M Anil Kumar, B Ajay, **R, Shashank**, & D A, Amogha Subramanya. (2019). An Apriori Method for Topic Extraction from Text Files. In International Journal of Recent Technology and Engineering (IJRTE) (Vol. 8, Issue 2, pp. 2516–2521). Blue Eyes Intelligence Engineering and Sciences Engineering and Sciences Publication - BEIESP.

Achievements and Leadership

- Top 5 Submission (out of 200+) - Fraud Detection Challenge, Amazon Machine Learning University
- Winner - Philips Hackabout 2017 - A data science challenge organized by Philips Research India
- Mentored 3 interns - at Motorola and Amazon, and currently leading a team of 5 engineers at LONI