

SHASHANK RANGARAJAN

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EXECUTIVE SUMMARY

Experienced scientist (4+ years) specializing in applied machine learning research, machine learning operations (MLOps), and large-scale data systems. Proven track record of delivering scalable, production-grade ML solutions across E-Commerce, Healthcare, Semiconductor, and Mobile Phone industries. Aim to drive impactful results at the intersection of software and machine learning research

SKILLS SUMMARY

- **Languages:** Python, Java, JavaScript, TypeScript, SQL, C
- **ML Lib:** PyTorch, Tensorflow, scikit-learn, HuggingFace, OpenAI, LangChain, Weka
- **MLOps:** MLflow, Amazon - EMR + Sagemaker, ECS Fargate, Apache Airflow, Iterative.ai - Data Version Control (DVC) Docker, HAProxy
- **Database:** SQL - Amazon RDS, MySQL; NoSQL - Amazon DynamoDB, Couchbase, MongoDB
- **Full stack:** (Backend) Flask, FastAPI, NodeJS, Spring boot, AWS - Lambda, API Gateway; (Frontend) React; (Cloud) AWS - EC2, StepFunctions, S3, GCP - BigQuery, Azure-OpenAI
- **ML Design:** Data processing, Model training, Validation, Re-calibration, Re-training, Deployment, Serving

WORK EXPERIENCE

- **Intel Corporation** California, USA
Machine Learning Scientist - II (Full-time) May 2023 - Present
Team: Analytics and Intelligence - Drives optimization of private cloud infrastructure using AI for Intel
 - (Ongoing) Modeling NFS slowness, expected to enhance resource utilization and save execution time (~ 40-60%)
 - Innovated a deep learning-based patch scheduling system to optimize OS patching/fixes, cut down resource wastage by 60%
 - Improved patch scheduler performance by 30% by leveraging large language models (LLM) for natural language features
 - Deployed scalable ML framework - with model registry, containerized inference APIs enabling instant multi-region deployments
 - Refined MLOps practices and simplified deployment process for team, achieving 10x acceleration in model development
 - Built an AI Chatbot - with RAG (retrieval augmented generation), and agentic capabilities enhancing customer experience on cloud management portal
- **Amazon.com** Karnataka, India
Software Development Engineer – ML Operations (Full-time) Jun 2020 - Jul 2022
Team: Espresso - Delivers MLOps platform to accelerate experimentation and deployment of ML experiments
 - Designed systems to integrate Apache Zeppelin notebooks into production ETL flows, enabled 10x faster experimentation through streamlined data science workflows. Collaborated with customers to onboard first production use case
 - Re-architected legacy model re-training pipeline ensuring 100% uptime while migrating 90+ production models. Collaborated with cross-functional team (applied scientists, developers) to achieve seamless transition
 - Transitioned production database to federated AWS accounts seamlessly with 0-data loss and minimal availability impact
 - Created a one-click solution to manage configurations, facilitating updates to prod configs without needing deployment
 - Supervised 1 intern, oversaw development of peer-review feature to ensure safe updates in production workflows
 - Resolved 100+ security risks, SEV2s across 10+ production pipelines ensuring operational excellence
- **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 globally
 - Launched smart updates for Motorola's (classical line of) phones, ensuring seamless updates for over 100K devices
 - Ideated customer feedback feature into the OTA app, enhancing user engagement and customer satisfaction
 - Implemented a game recommendation engine, led a cross-functional team of 4 to integrate it on "Hello You" app offering personalized experiences for users
 - Managed 2 interns, created a log analyzer tool for automatic call-drop detection, reducing ticket turn-around time by 30%

RESEARCH EXPERIENCE

- **University of Southern California** California, USA
Graduate Teaching Assistant (Part-time) Sep 2023 - May 2024
 - CSCI-585: Database Systems for the Spring 2024 offering. (Jan - May 2024)
 - DSCI-250: Introduction to Data Science for the Fall 2023 offering. (Sep - Dec 2023)
- **Student Researcher (Part-time)** Feb 2023 - Dec 2023
 - Laboratory of Neuro Imaging (LONI), Keck School of Medicine (Feb - Dec 2023): Led a team of 5 engineers for NIH's Data Archive for the Brain Initiative (DABI). Spearheaded development of analytics pipeline designed data processing, ML pipeline steps, and multiple backend-components. Launched the new features 2 weeks before anticipated delivery
 - Andrey Vilesov Group, Chemistry Department (Feb - May 2023): Trained deep learning models to analyze X-Ray Diffraction in He bubbles with 98% efficacy. Synthesized data and statistical estimation models for radius, intensity, aspect-ratio, and rotation

PUBLICATIONS

- **Shashank Rangarajan**, Jeffrey M Borgerson. (2023). Net-Batch Job Runtime Prediction for Accelerating Linux Reboot Patching Cycles. In Engineering Computing Technical Conference (ECTC) 2023, Intel Corporation
- K M Anil Kumar, B Ajay, **R, Shashank**, & D A, Amogha Subramanya. (2019). An A-priori Method for Topic Extraction fromText 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

EDUCATION

- **University of Southern California** California, USA
Master of Science - Computer Science; GPA: 4.0/4.0 Aug 2022 - May 2024
M.S. Honors | Courses: Machine Learning, Algorithms, Natural Language Processing, Deep Learning, Databases, Multimedia Systems, Information Retrieval
- **Sri Jayachamarajendra College of Engineering** Karnataka, India
Bachelor of Engineering - Computer Science; CGPA: 9.75/10.0 Aug 2015 - May 2019
University Rank 3

ACCOMPLISHMENTS

- CSCI MS Honors & Scholarship @ USC - (May 2024)
- Presented at the Engineering Computing Technical Conference (ECTC) @ Intel - (Nov 2023)
- Awarded DRA (Department Recognition Award) for innovations in EC @ Intel - (Oct 2023)
- Recognized by Amazon Machine Learning University - Fraud Detection Challenge, Top 5 (among 200+) @ Amazon - (Oct 2021)
- Winner - Philips Hackabout 2017 - A data science challenge organized @ Philips - (Oct 2017)