Niranjan Kumawat

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EDUCATION

Carnegie Mellon University – School of Computer Science   Pittsburgh, PA
Master of Software Engineering   December 2023
Courses: Cloud Computing, Software Architecture, Web Application Development, Search Engines, Project Management, Quality Management, Introduction to Machine Learning

Indian Institute of Technology, Dhanbad   Dhanbad, India
Bachelor of Technology – Computer Science and Engineering w/ honors   May 2019
Courses: Data Structures & Algorithms, Database Management Systems, Computer Networks, Distributed Systems

SKILLS

Java (Advanced), Python (Advanced), C++ (Intermediate), SQL (Intermediate), Scala (Basic), JavaScript (Basic), React, HTML, CSS, Vert.x, Django, pyspark, Kafka, Samza, Databricks, Jenkins, Docker, Terraform, Kubernetes, AWS, Azure, GCP, Redis, MongoDB, PostgreSQL, Kibana, nGrinder, Grafana, Athena, Jupyter, Agile (SCRUM, Kanban)

PROFESSIONAL EXPERIENCE

Samsung R&D Institute India (Samsung Ads P&E)   Bangalore, India
Lead Software Engineer | *Java, Python, Groovy*   April 2022 - August 2022
- Led backend infrastructure migration for 2 AWS regions to a new cloud account with blue/green deployment strategy, ensuring platform performance and stability by conducting thorough functional and stress testing
- Collaborated with product manager to address uncertainties and edge cases while defining new feature requirements
- Streamlined client integration by developing automated integration scripts with actionable feedback capabilities, cutting down overall integration effort from more than a month to a few days

Senior Software Engineer | *Java, Python, SQL, Groovy*   April 2021 - March 2022
- Decreased geo information retrieval time from IPv4 by 80% through shifting remote API access to in-memory access, and periodically updating records with AWS lambda; recognized with Project Incentive Award for going extra mile
- Reduced ~10% request load on primary service by designing data schema and engineering a new REST consent management microservice capable of handling billions of user devices; received 2021 Samsung Excellence Award
- Improved consumer engagement, reduced ad request TAT, and increased revenue by 50% (est.) with a near-optimal greedy auctioning algorithm for efficiently bundling ads in linear C-TV ad breaks; published work at AdKDD'22
- Troubleshot over 20 unreported and reported server-side issues in production using Kibana and Grafana, addressing anomalous behavior, attacks, high latency, and traffic spikes to ensure platform's expected functioning

Software Engineer | *Java, Python, HTML*   June 2019 - March 2021
- Optimized platform's real-time auctioning capabilities, following OpenRTB protocol, with "Programmatic Waterfall" sequential technique, resulting in strategic ad request serving and nearly 25% revenue boost
- Enhanced platform visibility by incorporating server-side logging capabilities through Apache Log4j2 logging framework combined with td-agent, facilitating reporting and production debugging needs of advertising business
- Improved *Very Short Ad Title's* language identification accuracy for 8 languages from 85% to 91% by implementing bi-LSTM RNN architecture, enhancing automatic ad filtering service's dependability

PROJECTS

Research Assistant - TEEL Lab, CMU | *Python*   September 2023 - Present
- Re-designing a real-time data pipeline to increase system's scalability using Azure Event Hubs and Spark, preparing it to accommodate five times larger traffic from future event logs created by student activity

Studio Project w/ Giant Eagle, Inc., CMU | *Python*   January 2023 - Present
- Validating and pre-processing (batch) inventory BLOB data from 8 disparate systems with Pandas library and Azure ML Studio to generate 20+ features for inventory prediction engine
- Applying requirements elicitation, architecture design, quality and risk management software engineering practices in a greenfield project to minimize inventory abnormalities, streamlining development process and increasing efficiency

Twitter Analytics on Cloud, Cloud Computing, CMU | *Java, pyspark, SQL, Docker, k8s*   January 2023 - April 2023
- Built a high-performance microservice with asynchronous framework and deployed using Kubernetes cluster on AWS's EC2, capable of handling 120K+ requests w/ <4ms avg. latency within overall operational budget of $1.28/hr
- Designed data model and implemented an efficient ETL process to load ~200 million records of Twitter dataset into relational database with Databricks, optimizing processing time (~30 minutes), cost, and IOPS performance