Amandeep Rathee

Software Engineer • Machine Learning Specialist • Cloud Certified

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Education

- **Duke University** — Durham, NC
  Master of Science in Data Science (MLE Track); GPA: 3.62/4.0 — *Aug 2019 – May 2021*
  - Recipient of Duke Academic Scholarship.
  - Coursework: Machine Learning, Algorithm Design, Database Systems, Software Engineering, and Cloud Computing.
- **Visvesvaraya Technological University** — Bangalore, India
  Bachelor of Science in Computer Science; First Class with Distinction — *Aug 2013 – May 2017*
  - Coursework: Programming in C and C++, Design and Analysis of Algorithms, Unix and Shell Programming, Database Systems, Web Programming, Computer Networks, Operating Systems, Compiler Design, Software Engineering, Software Architecture, Software Testing.

Technical Skills

- **Languages**: Python, Java, C++, C, SQL.
- **Tools**: Git, CLI, Hadoop, Spark, AWS, GCP, Docker, Kubernetes, CI/CD, PostgreSQL, MongoDB, AWS Redshift, MySQL, Redis, Numpy, Pandas, Scikit-Learn, Keras, TensorFlow, PyTorch, Onnx, OpenCV, NLTK.
- **Certifications**: AWS Certified Cloud Practitioner, Triplebyte Certified Machine Learning Engineer

Relevant Experience

- **Machine Learning Engineer** — Seattle, WA
  Research AI LLC - Part-time — *Aug 2020 - Present*
  - Developed heuristics for the NP-hard vehicle routing problem using reinforcement learning improving 10% trip distance.
  - Automated hyperparameter tuning for machine learning using Bayesian search resulting in 30% faster convergence.
  - Merged two large open-source codebases to cut development work from 6 to 3 months.
- **Machine Learning Intern** — Morrisville, NC
  LifeOmic - Full-time — *May 2020 - Aug 2020*
  - Digitized medical records for 30k patients by creating an OCR pipeline on AWS using convolutional networks in Python.
  - Removed bottleneck from EHR digitization using OpenCV and linear regression resulting in 80% faster pipeline.
  - Wrote unit and integration tests to support model deployments and took part in regular code reviews on GitLab.
- **Software Developer Intern** — Durham, NC
  Center for Genomics and Computational Biology, Duke University - NSF-funded Project — *Nov 2019 - May 2020*
  - Added features to RPhenoscape to find mutually exclusive phenotypes among fish using 100 years of past data.
  - Improved code running time by 40% using code profiling for the open-source RPhenospace package.
  - Developed an ETL pipeline from a Web Ontology Language (OWL) database to facilitate NSF-funded research grant.
- **Data Science and AI Content Strategist** — Bangalore, India
  UpGrad Education - Full-time — *Jul 2017 - May 2019*
  - Identified factors of churn using random forests resulting in customized marketing for 1M telecom customers.
  - Drove the net promoter score from 25% to 60% by developing data science courses for 10,000+ software engineers.
  - Increased the revenue of online AI program by $500,000, and helped it become the top AI program in 2018 across India.

Data Science Projects

- **RISK Board Game** Implemented a GUI and network-based RISK board game for 5 players using a server-client architecture in Java. Catered to client's changing requirements, came up with detailed specification, wrote unit, integration, system and UI tests along with comprehensive use of mocking. Wrote GUI using JavaFX. Collaborated with 3 other developers on GitLab and followed agile (SCRUM) development methodology.
  Skills: Java, Git, CLI, CI/CD, Docker, SOLID principles, Client-server, JavaFX, Mockito, SCRUM (May 2021)
- **Video-based NLP** Built a web-based serverless application on the cloud that processes natural language from a YouTube video and provides video sentiment and a list of topics discussed in the video.
  Skills: Python, Flask, HTTP, GET & POST, HTML & CSS, Serverless Engineering on AWS, YouTube API (May 2021)
- **Multi-label Human Classifier** Developed a convolutional neural network that identifies a person's gender, age, emotion, and apparel based on their photos.
  Skills: Python, Jupyter, TensorFlow, Keras, NumPy, Multi-label Classification (December 2019)