

Abhinav Jain

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Experience

Qualcomm | Snapdragon AI Processor Intern | January 2023 - Present | Toronto, ON

- **Associated skills:** C++, Python, Android, Linux, Bash, Git, GDB, NumPy, Pandas, Docker, Jenkins.
- Contributed to a multiplatform embedded framework to enable AI-based processing on Android phones.
 - Integrated inter-process data transfer features into production code for leading smartphone OEMs.
 - Added customizable runtime debugging capabilities, enabling component-level logging configuration.
 - Wrote unit and functional tests to ensure thread-safety and scalability of integrated code.
- Conceptualized and implemented MLOps features for platform & component level performance measurement.
 - Included support for custom metric and summary statistic definitions, reducing code needed by ~90%.
 - Scripted performance pipeline using bash, allowing execution of the entire pipeline using 1 command.
- Used a data-driven approach to evaluate framework performance.
 - Performed Inter-Process Communication (IPC) optimizations, observed 50% performance increase.
 - Enabled measurements for various AI and communication use cases on Android and DSP.

Cisco Systems | DevOps and Analytics Intern | May 2022 - August 2022 | Ottawa, ON

- **Associated skills:** Python, NumPy, Pandas, Scikit-learn, Docker, Elasticsearch, Linux, Bash, Jenkins, Git.
- Designed a system to recommend code reviewers for git commits and pull requests.
 - Serves 3600+ users, improving code review quality and decreasing length of review process.
 - Applied collaborative filtering ML techniques using NumPy and Pandas. Optimized for large datasets.
 - Deployed as a Jenkins job for CI/CD, and integrated into Cisco's GitHub and Grafana dashboard suite.
- Enhanced the Cisco Networking Bot (CNBot), a customer guidance chatbot with over 1200 monthly users.
 - Reduced CNBot's space usage by ~90% through Docker image optimizations, saving over \$35,000.
 - Increased CNBot's F1 score to 0.99 using Natural Language Understanding (NLU) pipeline optimizations.
 - Added detection for out-of-scope queries and out-of-vocabulary tokens by fine-tuning the NLU pipeline.

Cisco Systems | SRv6 Testing Team Intern | May 2021 - August 2021 | Ottawa, ON

- **Associated skills:** Python, TensorFlow/Keras, NumPy, Pandas, Linux, Bash, Git, InfluxDB, Grafana.
- Built a deep learning model to detect anomalies in router telemetry data.
- Created test cases for the Cisco Automation FactorY (CAFY) Test Suite for SRv6 performance measurement.
- Configured router topologies for test scenarios and developed RESTful APIs to preprocess network information.
- Wrote platform-agnostic data collection functions for SRv6 features using YANG, achieving 99% coverage.

MVS Remote Video | Project Consultant | August 2019 - January 2020 | Ottawa, ON

- **Associated skills:** Python, OpenCV, Raspberry Pi, NumPy, Linux.
- Developed a computer vision system to direct an autonomous vehicle transporting supplies through minefields.
- Leveraged OpenCV to calculate distance and angle to a target in real time.

Extracurriculars

University of Waterloo Data Science Club | Various Roles | September 2022 - Present | Waterloo, ON

- **Associated skills:** Python, TensorFlow/Keras, PyTorch, Jupyter Notebook, NumPy, Pandas, Matplotlib, MLFlow.
- Development Leader for a team solving a business challenge for Manifest Climate.
 - Fine-tuned a distillBERT Large Language Model (LLM) to get metrics from climate disclosure extracts.
 - Provided customers with 16 metrics. Reached an F1 score of 0.85. Used MLFlow to verify performance.
- Transformers/LLMs Reading group lead: Prepared presentations on Transformer and LLM-related papers.
- VP of Data Analysis: Led a team of 20 data analysts generating data science-related content.
 - Authored Medium articles covering data science, AI and ML topics.
 - Prepared and hosted workshops and resources on Pandas, Numpy, Matplotlib, and Tensorflow.

Education

University of Waterloo | Bachelor of Computer Science + AI Specialization | September 2020- May 2025 | Waterloo, ON

- Cumulative GPA: 89%
- Relevant Coursework: Algorithms, Operating Systems, Object-Oriented Programming, Data Structures