Krish Arora

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EDUCATION

University of British Columbia — Vancouver, BC
Bachelor of Science in Mathematics (Science Co-op) — *Graduating May 2027*
- Relevant Courses: Models of Computation, Software Construction, Machine Learning, Data Structures and Algorithms, Relational Databases, Computer Systems, Introduction to Artificial Intelligence

WORK EXPERIENCE

Software Developer Co-op — January 2026 – April 2026
National Research Council Canada — *Saskatoon, SK*
- Incoming Software Developer intern at the Aquatic and Crop Resource Development Resource Centre.

PROJECTS

DreamCar (In progress) Next.js | TypeScript | Prisma | PostgreSQL | OpenAI | Redis | Vercel
- Built preference-based car finder DreamCar by implementing Next.js with deterministic scoring and GPT extraction.
- Accelerated query speed by 70% using Redis caching by prototyping Weighted Sum/TOPSIS ranking with SQL filters.
- Extracted user preferences via GPT-4o-mini JSON tools by orchestrating Next.js routes with Prisma on PostgreSQL.
- Built production app with CI/CD pipeline on Vercel by implementing shadcn/ui, RHF+Zod, and TanStack Query tools.

Credit Card Payment Default Prediction Model | Python | scikit-learn | CatBoost | Matplotlib
- Identified default risk patterns across 25K+ transactions by spearheading predictive modeling data science initiative.
- Optimized F1-score to 0.53 for balanced detection by developing robust classification model on imbalanced dataset.
- Deployed CatBoost/SVM model with 76% accuracy by engineering pay-to-bill ratio and applying Bayesian optimization.
- Flagged payment delays as strongest predictor via SHAP by delivering 76% validation accuracy with 0.53 F1-score.

JobDistill | Python | Pandas
- Revealed in-demand CS/IT skills from postings by developing lightweight tool for extracting and distilling job data.
- Generated career insights for 500+ users by building automated PDF processor extracting key technical skill patterns.
- Processed 800+ job postings efficiently by implementing concurrent PDF parsing with Python pandas for normalization.
- Identified top 20 competencies from 800+ postings by ranking skill insights helping users optimize career development.

Pet Adoption Platform | Node.js | Express.js | SQL
- Streamlined adoption processes for 1,000+ pets by developing scalable full-stack platform for shelters and adopters.
- Enhanced user experience efficiency by 40% by designing robust backend APIs with intuitive React-based frontend.
- Accelerated pet search by 60% query time by implementing RESTful APIs with optimized database indexing strategies.
- Integrated cloud storage for 5,000+ pet images by deploying AWS S3 with automated upload and retrieval workflows.

Image Processor | C++
- Decomposed images efficiently via ternary tree by building C++ image-processing system for manipulation operations.
- Achieved 60% compression ratio on test images by implementing tree-based partitioning into similar-color regions.
- Accelerated transformations by 80% over pixel ops by engineering rotation/flip via tree structure manipulations.
- Eliminated memory leaks in production pipeline by optimizing custom destructor and copy constructor implementations.

TECHNICAL SKILLS

Languages & Databases: Python, C/C++, SQL, NoSQL
Backend Software Development: Backend services, software development
Testing & Quality: Unit testing, test–case design, end-to-end testing
Tools & Infrastructure: Git, Docker (containerized software)
Collaboration & Communication: Communication, collaboration, documentation