

# VANSHIKA SINGLA

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## Personla Portfolio Website

### Education

#### University of British Columbia

Bachelor of Science in Computer Science Major, Data Science Minor

September 2021 – May 2026

GPA: 4.33

- **Related Coursework:** Databases, Android Development, Software Engineering, Machine Learning, Intermediate Statistics, Project Management, Artificial Intelligence, Advanced Algorithms, Image Processing, Machine Architecture
- **Scholarships and Awards:** Data Analysis Badge, Undergraduate Mathematics Award, Rick and Yasmin Thorpe and Friends Scholarship, 1st Place Canadian Space Settlement Design Competition, Dean's Honor List (2021, 2022, 2023)

#### Young Director Member @ FORA

2023

Nonprofit Governance Training

- Comprehensive training in nonprofit governance covering board responsibilities, fiduciary oversight, strategic planning, risk management, ethical fundraising practices, donor stewardship, and regulatory compliance

### Skills

- **Programming & Languages:** Java, Python, TypeScript, R, SQL, Ruby, NoSQL
- **Cloud & DevOps:** AWS Lambda, DynamoDB, SQS, SNS, Amazon Coral, Azure DevOps, Azure Synapse, Spark
- **Data Analysis & Visualization:** Machine Learning, Data Analysis, Data Pipelining, Tableau, PowerBI, Excel
- **Libraries & Frameworks:** NumPy, Pandas, Matplotlib, Flask, OpenCV
- **Tools & Platforms:** Visual Studio, Jupyter Notebook, Eclipse, Android Studio, Git
- **Certifications:** Software Testing/QA, PowerBI Essentials, Tutor Level I (CRLA)

### Work Experience

#### Software Engineer, Amazon (AWS) — EC2 Core Platforms, AnyScale

May 2025 – July 2025

- Engineered a GDPR-compliant microservice to automate account lifecycle management (isolation, restoration, termination) and securely delete customer data, ensuring compliance for millions of EC2 accounts
- Designed and implemented DynamoDB-backed databases for handling live AES resource events with Time-to-Live automation across 30+ account state scenarios, reducing manual enforcement and ensuring consistent customer experience
- Integrated AWS AES service APIs using SNS, SQS, and Lambda to orchestrate account state changes across 15+ service namespaces, streamlining workflows and improving operational efficiency
- Developed a Ruby-based feature flag system to enable controlled regional rollouts, minimizing risk during launches and supporting incremental adoption across AWS regions

#### Data Engineer, Employment and Social Development Canada

January 2025 – April 2025

- Redefined DFP migration from a legacy application by designing data lineage and maintaining data pipelines using Azure Data Factory, Synapse Analytics, Spark Pools, Apache PySpark, Azure Data Lake Services, and Python notebooks
- Reviewed and optimized SQL scripts for ELT processes on Big Data, ensuring accurate application of business rules and maintaining data integrity

#### Quality Assurance Analyst, BC Liquor Distribution Branch

May 2024 – December 2024

- Developed master test plans and led quality assurance for POS hardware and software upgrades, preparing deployment across 198 stores across British Columbia
- Led cross-functional Agile/Kanban teams for Wholesale Applications migration and Hyper-V Servers projects; executed test cases, analyzed edge cases, and collaborated with the Automation team to automate test cases
- Resolved production tickets, reducing downtime by 60% and ensuring efficient issue tracking and reporting using Azure automated tools

#### Teaching Assistant, University of British Columbia

September 2023 – April 2024

- Instructed 50+ students in MGMT 250 on project management software including Project, Gantt charts, Vision, and Microsoft Access, enhancing practical PM skills
- Supported 34+ students per lab in MATH100 by integrating differential calculus lectures and providing interactive learning, increasing student engagement and understanding of complex concepts

#### Research Assistant, University of British Columbia

June 2023 – September 2023

- Transformed extensive datasets from RMD to LaTeX and converted research data into publication-ready formats using TeXworks, demonstrating adaptability, precision, and strong documentation skills

#### Founder and CEO, Edutainment (Non-Profit Organization)

2020 – 2021

- Managed a tutoring initiative supporting students and the community during the COVID-19 pandemic, expanding educational access and promoting learning continuity

## Projects

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### Game of Amazons (AI Bot) — Alpha-Beta Pruning, Java, Game Theory, Heuristic Evaluation [LINK](#)

- Collaborated to develop an AI bot to enhance gameplay strategy using minimax search combined with Alpha-Beta pruning to efficiently navigate the game tree and optimize decision-making
- Designed heuristic functions to evaluate potential moves and achieved **third place** in a competitive Game of Amazons tournament **among 23 teams**

### EduPool E-Learning Platform — Python, HTML, CSS, JavaScript, MySQL, RESTful API [LINK](#)

- Collaborated in developing a Flask-based full-stack e-learning platform, employing Agile methodologies, front-end design, UML for system design, Sequence Diagram, CI practices, and Test-Driven Development (TDD) with Selenium for automated testing to ensure quality
- Implemented core features like user and course management, discussion portals, assignment submissions, and grading with jQuery and Jinja templating, enabling seamless interaction among administrators, students, and professors

### Aid-Finder App — UI/UX, Java, Firebase, Giraffe, Android Studio [LINK](#)

- Conducted market research and user interviews, developed a high-fidelity prototype, and handled all aspects of app development to create a full-stack Food and Home Shelter Locator app using data from 6-7 food banks
- Enhanced app performance through heuristic evaluation and integrated APIs, Google Cloud, and Firebase for real-time location tracking and optimization

### Space Watch - Hackathon — OpenCV, Flask, HTML, CSS, YOLOv8 [LINK](#)

- Engineered a security-focused face recognition platform from scratch in 24 hours, enhancing accuracy by integrating YOLOv8 with PyTorch for a more effective and reliable solution

### Elevating ACME — Big Data, Data Analysis, Relational Databases, MySQL [LINK](#)

- Utilized SQL, Databases, Power Pivot and Excel to generate a comprehensive data analysis report for ACME, uncovering key customer insights, sales volume trends, and pricing dynamics for company's success
- Applied **forecasting techniques and linear regression model** to predict both best and worst product dynamics
- **Recognized with the Data Analysis Badge from UBC:** Ranking among the top 5 projects among 100-150 students