ZAKIR MUHAMMAD

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WORK EXPERIENCE

Signaller

Government of Canada

December 2024 - Present | Permanent Part-time

- Configured, deployed, and operated **communication networks**, **cryptographic** equipment, and **VHF/HF** radio infrastructure in austere conditions.

Research Assistant

University of Toronto

September 2024 - March 2025 | Contract Part-time

- At the Heritage Language Variation and Change lab in the Department of Linguistics.
- Built a **Python** package and pipeline to segment, tag, and extract syntactic linguistic features directly from the corpus for novel research.
- Tuned a **TensorFlow** sequence-to-sequence translation model on corpus data, reducing manual transcription.

Software Developer Intern

Bank of Canada

January 2024 - April 2024 | Contract Full-time

- Maintained and developed full-stack internal and externally facing applications in **PHP** and **JavaScript**.
- Participated in code reviews, authored unit tests, and resolved tickets within an **Agile/Scrum** delivery cycle.
- Enforced **WCAG 2.1** accessibility compliance and design system standards.

Web Developer Intern

Canada Summer Jobs

May 2023 - August 2023 | Contract Full-time

- Developed a full-stack web platform using **React** and **Node.js** with **Strapi** headless CMS, enabling non-technical staff to manage content.

Analyst Intern

BrokerLink

May 2022 - September 2022 | Contract Full-time

- Developed **Python** code to aggregate data and streamline manual data entry processes.
- Wrote **queries** to create reports on support desk operational data, identifying bottlenecks for senior management.

EDUCATION

Honours BSc. in Computer Science

University of Toronto

2021 – Present

- Major in Computer Science, Minor in Linguistics, Minor in Mathematics.
- **Notable Courses:** Algorithm Design, Computational Complexity, Deep Learning, Reinforcement Learning, Machine Vision, Number Theory, Computational Linguistics, Semantics and Pragmatics.
- **Clubs:** Hart House Debating Club, Onion Club

ADDITIONAL EXPERIENCE

Soccer Jersey Sponsor Logo Detector

CSC490 - Capstone in Machine Vision

- With collaborators, built a multi-stage computer vision pipeline combining a **YOLO** object detection network with a **ResNet** classifier to locate and identify brand logos on player's jerseys in match video feeds.
- Computed cumulative screen time per logo to inform ideal team and logo placement for advertisers.

Rubik's Cube Solver

CSC207 - Software Design

- Led an **Agile** team to develop an OOP based Rubik's Cube solving application in **Java** with the JavaFX framework.
- Engineered the application architecture with UML diagrams and design patterns, with a focus on accessibility.

Computer Science Facilitator

University of Toronto - RGASC

February 2023 - May 2023

- Facilitated weekly review and debugging sessions for **30+** first year CS students, reinforcing core **data structures**, **OOP** paradigms, and **algorithms**.

TECHNICAL SKILLS

Python | Java | C | C# | SQL | JavaScript | PHP | Bash | HTML | CSS | React | Node.js | Express | jQuery | PyTorch | TensorFlow | scikit-learn | Pandas | NumPy | Git | Google Cloud Platform | REST APIs | Linux/Unix