

Kartikkumar Parekh

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EDUCATION

Brock University

Hons. Bachelor of Computer Science (Co-op), Minor in Mathematics

St. Catharines, Ontario

May 2021 – April 2025

EXPERIENCE

Undergraduate Research Assistant

Brock University

Sept. 2024 – Present

St. Catharines, ON

- Developing a novel Reinforcement Learning approach to optimize handover decisions in 5G vehicular networks, reducing failure rates by 20%
- Analyzing key network performance metrics using OMNET++, VEINS, INET, and SimuLTE/Simu5G for vehicular network simulation
- Implementing and testing handover management solutions in simulated 5G vehicular environments
- Working under Prof. Robson's supervision to research and develop innovative solutions for 5G network handover optimization

Junior System Administrator Co-op

Ontario Ministry of Transportation

May 2024 – Aug. 2024

St. Catharines, ON

- Developed a dynamic real-time Power BI dashboard to monitor server uptime and active machines (Linux and Windows) with filtering capabilities for OS versions and types, enhancing system performance insights.
- Created scripts to dynamically load data from Azure into the Power BI dashboard, ensuring accurate and timely updates.
- Assisted in the maintenance and administration of Windows and Linux servers, achieving 99.9% uptime and reliability.
- Implemented and managed Active Directory, including user account creation, group policy configuration, and access management.
- Provided technical support and troubleshooting for hardware and software issues to over 200 end-users.

Computer Science Developmental Student Co-op

Ontario Power Generation

Jan. 2023 – Aug. 2023

Bowmanville, ON

- Learned new tools, languages, frameworks to support project requirements
- Created and updated website content, including text, images, and videos while troubleshooting issues
- Developed and implemented VBA scripts to automate tasks and improve efficiency in Excel
- Collaborated with designers, developers, and other team members to ensure requirements were met

Google Developer Student Club Lead

Brock University

July 2022 – July 2023

St. Catharines, ON

- Attended educational events hosted by Google and gained learnings of new fields of technology
- Grew the community by developing professional relationships and promoting the club
- Applied learnings to build solutions for real local and global issues
- Organized virtual and in-person events for on-campus students

PROJECTS

Personal Portfolio & Tools Website | *HTML, CSS, JavaScript, Git, Web Hosting*

Feb. 2024 – Present

- Designed and developed a responsive, interactive website (kartik-parekh.me) optimized for various devices and search engines (SEO)
- Utilized Git for version control and hosted on GitHub Pages, leveraging free hosting services for university students
- Registered a custom domain and implemented proper DNS configuration for seamless access
- Currently developing a separate tools subdomain featuring PDF and image conversion utilities, keeping the portfolio and tools sections distinct

Automated Simulator Booking System | *Microsoft Power Apps, Power Automate*

Jan. 2023 – Aug. 2023

- Built a low-code simulator booking system, increasing booking efficiency by 30%
- Created administrator controls for user and simulator management

Library Management System | *Java, Swing, JDBC, MySQL*

Dec. 2022 – March 2022

- Designed and developed a desktop application, reducing processing time by 25%
- Implemented JDBC database connectivity ensuring 99.9% uptime

PROFESSIONAL CERTIFICATIONS

- Data Structures and Algorithms - Google (February 2024)
- DevOps Essentials - Google Cloud (October 2022)
- Google Cloud Essentials - Google Cloud (October 2022)
- Certified Ethical Hacker (C|EH) - Cybersecurity India (February 2021)
- Certificate in Penetration Testing and Digital Forensics - Cybersecurity India (April 2021)
- Programming with Java, C, C++ - Bitnet Education for Software Technology (March 2021)
- Mastercard Cybersecurity virtual experience program - Forage (February 2024)
- AIG Shields Up: Cybersecurity virtual experience program - Forage (February 2024)

TECHNICAL SKILLS

Programming Languages: Java, C/C++, Python, TypeScript/JavaScript, PHP, MIPS Assembly, VBA Scripting
Frameworks & Tools: Linux, Garuda, Bash, Ubuntu, Android Studio, DevOps, Cloud, LATEX,
Web Application Testing, IOS/Android System Programming, Git
Web & Database: HTML/CSS, REST APIs, MySQL, PostgreSQL, MongoDB, Redis, SQLite