

# Karan Singh Sandhu

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## EDUCATION

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**Sheridan College**, Brampton, ON  
*Software Development & Network Engineering*

Graduated: December 2023  
Overall GPA: 3.95

## SKILLS

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- **Programming Languages:** Python, Node.js, Java, JavaScript, C/C++, C#, Swift, SQL, HTML, CSS
- **Frameworks & Libraries:** Django, Spring Boot, ASP.NET, React Native, Angular, FastAPI, jQuery
- **Databases:** MongoDB, PostgreSQL, Elasticsearch, Redis, MySQL, MSSQL
- **Tools & Platforms:** AWS, Git, Eclipse, Visual Studio Code, Linux, Docker, Jenkins, Maltego, Wireshark, PowerBi
- **APIs & Integrations:** Public APIs, third-party LLMs (GPT, Azure, Anthropic), SKY API, ARMADA, Hugging Face
- **Other Skills:** Effective communication, technical presentations, problem-solving, teamwork, adaptability

**Ridley College**, St. Catharines, ON  
*Data Systems Analyst*

Jan 2024 - Present

- Developed multiple web applications for internal use by integrating Blackbaud SKY API with third-party services such as Trevlac, Enquiry Tracker, Multiview, COBA, and ReNXT, enhancing data accessibility and operational efficiency across departments.
- Created a custom integration solution between the Student Information System (SIS), Blackbaud, and Enquiry Tracker, allowing seamless synchronization of admissions data and lead management, reducing manual work and enhancing enrollment insights.
- Built internal web applications for the Business Office, enabling them to access real-time data from Volante POS terminals and manage scholarships and bursaries data efficiently in COBA.
- Led the architecture, configuration, and security of database systems to support the school's academic, athletic, and administrative needs, with an emphasis on data integrity and accessibility.
- Conducted data modeling to facilitate strategic decision-making, providing insights that drive optimization of academic and operational processes.
- Collaborated closely with the IT team to design and implement KPI-based solutions, ensuring robust data integration and operational efficacy.
- Administered and upgraded Blackbaud CORE modules, managing disaster recovery protocols and system updates to ensure data reliability and system resilience.
- Enhanced database security through implementing procedures, triggers, and strict access controls, ensuring the protection of sensitive student and school information.
- Diagnosed and resolved first-level database incidents, conducted root cause analyses, and implemented preventive solutions to maintain high system uptime and reliability.
- Authored comprehensive system documentation and delivered stakeholder presentations on data analysis and integration techniques.
- Ensured adherence to provincial regulations and school policies governing information systems, maintaining compliance and aligning data operations with institutional standards.

**Sheridan College**, Brampton, ON  
*Laptop Classroom Technician (Co-op)*

May 2023 - Jan 2024

- Delivered front-line technical support to over 500 students and faculty members.
- Resolved issues related to desktop and laptop computers, operating systems, telephones, and PC applications.
- Developed a printer monitoring web application using Python Django by implementing API integration with Lexmark Printers, improving efficiency by 40% and reducing downtime by 80%.
- Oversaw IT preventative maintenance, coordinated equipment sign-outs, and managed inventory.

**Alpha Labs**, Toronto, ON  
*Full Stack Developer (Co-op)*

Sept 2022 - Dec 2022

- Designed, executed, and maintained over 200 Selenium WebDriver automated test cases, reducing testing time by 40% and increasing coverage by 25%.
- Engineered and maintained web applications for healthcare clients using ASP.NET, C#, JavaScript, HTML5/CSS3.
- Developed CRM, Patient Portal, Warehouse Management, Doctor Portal, and E-Requisition System, increasing productivity by 30%.

**RBC**, Toronto, ON  
*Cyber Security Analyst (Co-op)*

Jan 2022 - Apr 2022

- Developed test programs for AES/DES encryption and decryption, key generation, token recall, and EMV ARPC verification, enhancing functionality by 30%.
- Conducted comprehensive testing and troubleshooting to ensure optimal program operations.
- Improved a web application in Python Django, automating cryptographic key attestations and increasing efficiency by 80%.
- Mentored high school students in Cyber Security, guiding them in reverse engineering, web exploitation, and social attack vectors.

## PROJECTS

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### **BetsMaker**

May 2024 - Present

*Project Link:* [bets.karansinghsandhu.com](https://bets.karansinghsandhu.com)

- Developed a web application using Next.js to help friends track their bets.
- Integrated AI analysis to provide insights on how users can improve their chances of winning or maximize profits.
- Implemented secure authentication and real-time data updates.
- Deployed the application using Docker and managed CI/CD pipelines with GitHub Actions.

### **TravelPlanner**

Sep 2024 - Present

*Project Link:* [travel.karansinghsandhu.com](https://travel.karansinghsandhu.com)

- Built a web application designed to assist users in planning and booking travel itineraries, providing a user-friendly interface for seamless navigation.
- Integrated affiliate links with services like Expedia and Trip.com, dynamically generating destination links with date-based parameters to enhance user convenience.
- Implemented AI-powered features for personalized travel recommendations and cost-saving insights.
- Deployed using cloud-based infrastructure and managed CI/CD workflows for efficient updates and maintenance.

## CERTIFICATIONS & COURSES

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- CompTIA Cybersecurity Analyst (College Examination)
- AWS Training (Proven Competence through College Examinations)
- Certified Ethical Hacker (Udemy)