SHANIA POON

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EDUCATION

Bachelor of Medical Sciences - Specialization in Interdisciplinary Medical Sciences | *Western University*   2026
- Relevant coursework in Data Science, Data Structures and Algorithms, Databases II, Bioinformatics, and Organic Chemistry
- Executive Member of Western Students Offering Support (SOS) and Western Smart Solutions

TECHNICAL SKILLS

- **Software/program skills:** Excel | Word | PowerPoint | Outlook | MS Teams | VS Code | MySQL |
- **Programing Languages/skills:** R | Python | SQL | JavaScript | PHP | CSS | HTML | C++ |

RESEARCH & COMPUTATIONAL PROJECTS

Electronic Medical Record (EMR) System | Python, JavaScript, PHP, SQL
- Developed a **full-stack EMR application** to manage structured patient records, enabling efficient data storage, querying, and retrieval
- Designed backend data pipelines and database schemas to ensure data integrity, scalability, and secure access control

Concurrent Indexing Systems Benchmark | Python, C++
- Benchmarked lock-based B+ Trees vs. latch-free Bw-Trees using **YCSB** to evaluate **latency, throughput, and scalability** under concurrent workloads
- Analyzed performance tradeoffs using python to assess suitability for high-throughput data systems

Computational Epigenomic Analysis Research Project | R
- Performed differential DNA methylation analysis on prenatal THC exposure datasets in Rhesus macaque fetal tissues
- Generated reproducible statistical reports using **data preprocessing, normalization, and visualization pipelines**

LABORATORY EXPERIENCE

Student | Databases II Course | *Western University*   Sept 2025 – Dec 2025
- Applied **data storage, indexing, and query optimization** techniques to support efficient retrieval of large datasets
- Evaluated concurrency control and recovery strategies to maintain **data integrity, privacy, and reliability in multi-user systems**
- Assessed distributed database architectures to support secure clinical **data storage, archiving, and scalability**

Student | Data Science Course | *Western University*   Jan – Apr 2025
- Utilized Python packages such as **Pandas** and **NumPy** to manipulate and analyze real-world health-related datasets
- Applied statistical techniques including **bootstrap resampling, hypothesis testing, and Bayesian inference**
- Developed and evaluated predictive models using **regression analysis** and **cross-validation** to ensure model accuracy and reliability

Project Volunteer | Bioinformatics Research Project (Dr. Kum & A. Ray) | *Western University*   Oct – Jan 2025
- Reviewed, analyzed, and compiled **238** peer-reviewed bioinformatics articles to ensure high validity and relevance for final report

WORK EXPERIENCE

Summer Camp Coordinator | *STEM camp*   June – Aug 2023
- Led, supervised, and trained a team of camp counselors, counselors-in-training (CIT), and campers of ages 5-13
- Managed and completed administration duties such as attendance records, safety procedures, and inventory reporting

Summer Camp Counsellor | *STEM camp*   June – Aug 2022
- Designed and led engaging STEM activities for campers while ensuring safety procedures are always followed

VOLUNTEER EXPERIENCE

Diagnostic Imaging Volunteer | *Cambridge Memorial Hospital*   July 2024 – Present
- Provided patients with diagnostic imaging directions, procedure information, and CT preparation instructions