Josef Graf

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Employment History

Student Researcher (CRLB-GMEL, Dr. Guillaume Paré)   **May 2024 - Present**
Population Health Research Institute, McMaster University
- Optimized pipelines with processing speed improvements ranging from 2x to more than 100x.
- Created the lmutils library for R to enable more efficient high-performance computing on biobank-scale data thanks to the power and flexibility of the Rust programming language.

Founder & Software Developer   **Apr 2024 - Present**
Kanri
- Developed Kanri, an all-in-one management platform for martial arts schools. Features include membership management, attendance tracking, billing, belt tracking, scheduling, analytics, and more. Currently in late alpha.

Software Developer (Contract)   **July 2024 - December 2024**
Baseline Technologies (Remote)
- Modernized permissions, PDF, and email systems with improved performance, flexibility, and styling.

Lead Software Developer (Politics & War)   **Mar 2022 - June 2024**
Yellowstone Digital Media (Remote)
- Worked to improve and incrementally require legacy PHP codebase with new features such as a WebSocket-based real-time API for a playerbase of more than 6,000.
- Worked as lead game developer coordinating and managing teams of community volunteers including the Development, API, Game Design, and Quality Assurance teams.

Senior Karate Instructor   **Sept 2020 - Present**
Canadian Black Belt Academy
- Planned and delivered karate classes of up to 35 students from ages 4 to adult. Coordinated and managed junior instructors and interfaced with parents in regards to registration, retail, and the progress of their children.

Education

2022 – 2026 **BASc. Computer Science, McMaster University**. GPA: 11.2/12.0 (A).
Coursework: Databases, Data Structures and Algorithms, Concurrent Systems, Web Programming, Computer Architecture, Discrete Math, Linear Algebra, Calculus, Compilers, Networking, Cryptography, Statistics, etc.

2018 – 2022 **High School Diploma, Villanova College**. GPA: 98%.

Publications

Man, Alice, Leona Knüsel, **Josef Graf**, Ricky Lali, Ann Le, Matteo Di Scipio, Pedrum Mohammadi-Shemirani, Michael Chong, Marie Pigeyre, Zoltán Kutalik, and Guillaume Paré (Mar. 2025). "Identification of effect modifiers using a stratified Mendelian randomization algorithmic framework". In: *European Journal of Epidemiology*. ISSN: 1573-7284.
🔗 DOI: 10.1007/s10654-025-01213-0.

Skills

Languages Rust, Python, JavaScript, TypeScript, PHP, Java, C, Bash, Haskell, R

Tools MySQL, PostgreSQL, SQLite, Git, Docker, Linux, Cloudflare, GitHub Actions

Web HTML, CSS, React, Next.js, TailwindCSS, Laravel, REST, GraphQL