

Michael Pearce

Nonprofit Founder & Full-Stack Developer

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 Street Ninja	https://streetninja.ca

Summary

Self-taught full-stack developer with a strong focus on scalable web architecture, API design, and real-world impact. Creator of Street Ninja, a nonprofit initiative delivering real-time SMS-based assistance to homeless individuals. Passionate about building purposeful software and solving meaningful problems through thoughtful design and reliable systems. Seeking a developer role where I can contribute to user-centered, high-impact projects.

Technical Skills

Languages:

Python, TypeScript, JavaScript (ES6+), HTML5, CSS3, SCSS, Bash, PowerShell, C#

Frameworks & Libraries:

Django, Django REST Framework (DRF), Next.js, React, FastAPI, Pydantic, Tailwind CSS, Bootstrap, Playwright, BeautifulSoup, Fastify, SvelteKit, pytest

Databases & Backend:

PostgreSQL, Redis, Celery, RESTful APIs, Tortoise ORM, JSON serialization & schema validation, relational schema design

Tools & Platforms:

Docker, Git, GitHub Actions, Vite, systemd, Nginx, Gunicorn, Uvicorn, SSH, Linux CLI

Infrastructure & DevOps:

CI/CD pipelines, IaaS deployments, Linux server setup, containerization, process management

Focus Areas:

API design, async programming, full-stack development, web scraping, GIS data, open-source development, browser automation, cybersecurity (TryHackMe, VulnHub)

Experience

Street Ninja – Founder & Lead Developer

2024 – Present

Python, Django REST Framework, PostgreSQL, Redis, Celery, Celery-Beat, Docker, Twilio

A nonprofit platform that provides real-time, SMS-based assistance to homeless individuals by aggregating city resources (shelters, food, water, hygiene, Wi-Fi) and organizing them by geolocation proximity to the user's location.

The system is stateful over SMS, allowing users to ask follow-up questions or receive walking directions to a selected resource.

- Built a full-stack application using Django REST Framework, Next.js, PostgreSQL, and Redis with an API-first architecture
- Containerized the system with Docker for easy deployment and environment consistency
- Developed a stateful SMS assistant through Twilio, supporting follow-up queries, resource lookups, and step-by-step directions
- Engineered a custom location parser to extract intersections, addresses, and landmarks from unstructured SMS input
- Implemented a high-performance caching system with Redis and Celery for blazing fast lookups and fault-tolerant background updates
- Designed an extensible integration layer for 3rd-party open data sources (e.g., Vancouver OpenData API, OpenRouteService)
- Built robust error monitoring with issue-based email alerts for failed jobs, location parsing errors, and 500 status codes
- Optimized the entire system for low-tech environments — no GPS or smartphone required, just SMS text messaging
- Fully open-source at github.com/FirstFlush/street_ninja

Notable Projects

Street Ninja Website – Public Outreach & Interactive Map

TypeScript, NextJS / React, TailwindCSS

A companion site for government agencies, NGOs, grant-issuers, and other interested parties to learn about Street Ninja, try it out, and explore real-time resource data.

- Built with an interactive map to visualize shelters, food programs, public washrooms, and other essential city services
- Integrated with the Street Ninja API to provide live resource data directly from the backend
- Developed a web-based SMS simulator, allowing users to preview the service directly in the web browser

- Designed for public engagement, funding outreach, and institutional transparency

Open Source Packages

Python, C#, .NET, PyPI, NuGet, CI/CD

- **canatax** (Python / PyPI – 12,000+ downloads): Canadian income & sales tax calculator
- **tire_codes** (Python / PyPI – 2,700+ downloads): Parser for DOT tire codes
- **Stegosaurus** (C# / NuGet – 2,200+ downloads): AES-encrypted steganography tool using LSB encoding and PRNG-based obfuscation

Fingerprint Defender – Browser Fingerprint Spoofing Extension

TypeScript, Vite, WebExtensions API

- Builds a spoofed browser environment to defend against fingerprinting and tracking
- Analyzes the user's real browser environment (e.g. hardware, network, localization, media) to generate realistic but altered values
- Ongoing project with a focus on deep browser internals—exploring low-level APIs, engine quirks, and fingerprint surfaces

UserAgent.one – Public API for randomized user-agent data

TypeScript, Fastify, SvelteKit, TailwindCSS, Vite, Docker

- Developed a web API to expose realistic, user-agent data from the user -agents NPM package for browser-based environments, updated daily.
- Built clean UI, live documentation, and API usage examples at <https://useragent.one>
- Containerized with Docker and shipped with a single-command Bash deployment script
- Designed to support tools like browser extensions that can't natively access Node packages or stale client-side data

Education

- **Independent Developer** – 4+ years of hands-on learning through real-world projects, open-source contributions, and continuous self-education.
- **TryHackMe (Top 1% rank globally)** – Completed penetration testing and security challenges as part of broader developer training.

Additional Information

- Open to remote & local developer roles, full-time or contract
- Passionate about technology for social good
- Extremely comfortable in Linux environments and terminal-based workflows
- All projects are open-source on GitHub
- Full portfolio at michaelpearce.tech
- Based in Vancouver, BC, Canada