Jeremie BITSCH

Automation Systems Engineer
Generative AI & Geospatial Intelligence

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ⓙ www.jerenyon.dev

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📍 Saint-Hyacinthe, Québec, CA

SKILLS

★ **Problem-solving**
A natural problem-solver skilled in analyzing complex systems and delivering innovative, actionable solutions. Known for applying critical thinking to streamline processes and address intricate challenges effectively.

★ **Adaptability**
Thrives in fast-paced, evolving environments. Proactive in embracing new ideas, technologies, and methodologies to drive continuous learning and deliver cutting-edge solutions.

★ **Communication**
An effective communicator adept at translating technical concepts into clear, actionable insights. Fosters collaboration across cross-functional teams, ensuring alignment and shared vision.

Languages: English *(bilingual)*, French *(native)*

Programming: Python, Typescript, Swift, SwiftUI, Javascript, HTML, CSS

AI/ML Tools: LangChain, LlamaIndex, Hugging Face, PyTorch, TensorFlow, Keras, OpenAI, Vercel AI SDK, ChromaDB

Cloud & Deployment: Azure, Docker, Vercel, Git, GitHub

Web Development: Next.js, React, Django, DRF, Flask, FastAPI, Prisma, Tailwind

Data Engineering: Pandas, GeoPandas, NumPy, scikit-learn, PostgreSQL, PostGIS, MongoDB, Redis, SQLAlchemy, psycopg

Geospatial: QGIS, ArcGIS Pro/API, Shapely, OSMnx, Folium, Setics Sttar, AutoCAD Map 3D

Visualization: Matplotlib, Seaborn, Pillow, Affinity Designer

Development Tools: VS Code, Xcode, pgAdmin, Postman, pytest, Jest

PROFILE

I am an Automation Systems Engineer specializing in AI-driven automation, geospatial intelligence, and scalable platform architecture. With full-stack expertise in Python, TypeScript, FastAPI, Next.js, and cloud infrastructure (Azure), I design and deploy intelligent systems that transform complex data into actionable insights, leveraging LLMs, AI agents, and advanced RAG methodologies.

Holding the IBM Generative AI Engineering Specialization, I have hands-on experience developing and fine-tuning AI models with LangChain, Hugging Face, PyTorch, and cutting-edge RAG techniques. My recent work includes building an enterprise-grade GraphRAG chatbot for knowledge retrieval and an AI-driven agent for automated project estimation.

With a strong foundation in geospatial analysis, I lead transformative projects at the intersection of AI, automation, and spatial data, delivering scalable, innovative solutions to complex business challenges.

EXPERIENCE

June 2022 ▸ Now
Telecon Design
Remote

Full-Stack Automation Engineer & Continuous Improvement Advisor
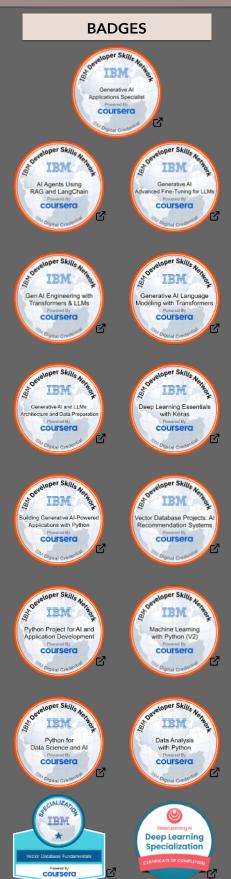
▸ **Lead** AI/ML R&D initiatives, developing generative AI solutions such as RAG chatbots and AI agents with LangChain, achieving a 50% reduction in manual query resolution times and enhancing data accessibility.

▸ **Designed** and **deployed** a cloud-based automation platform with dockerized Django backends and Next.js frontends, optimizing processes, centralizing documentation, and enabling R&D capabilities.

▸ **Developed** Python-powered SaaS tools and reusable automation components, streamlining geospatial data engineering workflows and reducing manual efforts by over 60%.

▸ **Spearheaded** the adoption of GIS technologies, transforming manual workflows into automated, data-driven solutions, cutting project completion times by up to 80% and significantly improving accuracy in network design and civil engineering.

▸ **Engineered** scalable APIs for seamless service integration, ensuring maintainability and high performance.

▸ **Built** and **mentored** an agile development team, fostering autonomy, best practices in Python, GIS, and modern software methodologies.

▸ **Managed** Azure cloud infrastructure, overseeing web apps, databases, container registries, networking, and CI/CD pipelines to enable seamless deployment across staging and production environments.

Sept. 2024 ▸ Now
Jerenyon Dev
Remote

Founder & Full-Stack Engineer

▸ **Founded** and developed Jerenyon Dev, a dynamic platform offering tailored automation tools, web development services, and cutting-edge geospatial solutions, bridging innovation and efficiency.

▸ **Designed** and implemented custom solutions powered by Python, Django, Next.js, and Postgres, integrating advanced automation, and generative AI capabilities to streamline workflows and drive client success.

▸ **Built** Jerenyon Dev as both a portfolio and a knowledge hub, sharing insights, methodologies, and projects to foster engagement and showcase expertise in full-stack development, AI integration, geospatial technologies, and Python-driven automation.

▸ **Focused** on delivering scalable, data-driven applications and tools that address unique client challenges, with an emphasis on operational optimization, digital transformation, and generative AI innovation.

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Generative AI & Geospatial Intelligence

BADGES

IBM Developer Skills Network — Generative AI Applications Specialist — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — AI Agents Using RAG and LangChain — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Generative AI Advanced Fine-Tuning for LLMs — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Gen AI Engineering with Transformers & LLMs — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Generative AI Language Modeling with Transformers — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Generative AI and LLMs: Architecture and Data Preparation — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Deep Learning Essentials with Keras — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Building Generative AI-Powered Applications with Python — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Vector Database Projects: AI Recommendation Systems — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Python Project for AI and Application Development — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Machine Learning with Python (V2) — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Python for Data Science and AI — Powered By coursera — IBM Digital Credential

IBM Developer Skills Network — Data Analysis with Python — Powered By coursera — IBM Digital Credential

SPECIALIZATION IBM — Vector Database Fundamentals — Powered By coursera

DeepLearning.AI — Deep Learning Specialization — CERTIFICATE OF COMPLETION

Sept. 2021 ▶ now

NJAE Plume
Remote

Co-Founder & Full-Stack Engineer

▸ **Guided** the strategic vision and technical innovation of NJAE Plume, transitioning from a WordPress-based system to a custom-built e-commerce platform powered by Django, enhancing user experience and scalability.

▸ **Defined** the tech stack strategy, leveraging Python, Django, React, and Postgres to create a seamless, future-ready platform, including REST API foundations for iOS app integration.

▸ **Directed** software engineering initiatives while managing business operations, including finances, regulatory compliance, and streamlined processes for growth.

▸ **Fostered** a culture of creativity and empowerment, delivering original, handmade digital products that blend functionality and joy, and building a thriving creative community.

July 2018 ▶ June 2022

Telecon Design
Montréal (CA)

Fiber Network Designer & GIS Automation Engineer

▸ **Engineered** and drafted fiber network designs for FTTH, GPON, and HFC technologies, ensuring compliance with industry standards and client specifications.

▸ **Transitioned** from FTTH designer to leveraging GIS expertise and Python programming to drive digital transformation in fiber network design and automation.

▸ **Pioneered** GIS integration using QGIS and AutoCAD Map 3D, developing custom geoprocessing models and AutoLISP tools to optimize spatial analysis and design workflows.

▸ **Built** Python-based automation solutions and on-premise SaaS tools with GUIs, streamlining processes and enhancing operational efficiency across teams.

▸ **Established** scalable, Postgres/PostGIS-enabled databases on Azure, laying the groundwork for advanced geospatial data management and future cloud development.

CERTIFICATIONS

2025

▸ **Data Structures and Algorithms** ⧉
UC San Diego, Coursera

▸ **Generative AI Engineering Professional Certificate** ⧉
IBM, Coursera

▸ **Vector Database Fundamentals** ⧉
IBM, Coursera

▸ **Microsoft Copilot for Software Development** ⧉
Microsoft, Coursera

2022

▸ **TensorFlow Developer Specialization** ⧉
DeepLearner.AI, Coursera

▸ **Deep Learning Specialization** ⧉
DeepLearning.AI, Coursera

▸ **Machine Learning Specialization** ⧉
Stanford University & DeepLearning.AI, Coursera

EDUCATION

2014 ▶ 2016

University of Caen Normandy (FR)

▸ **Master of Science, Physical Geography**
Geoprocessing, spatial analysis, hydrogeomorphology and Climatology. Environmental studies, hazards and risks management. Cartography and GIS.

2011 ▶ 2014

University of Caen Normandy (FR)

▸ **Bachelor's Degree in Geography**
Fundamentals of Geography. Geomorphology, hydrology and climatology. Environmental hazards and risks management. Cartography and GIS.