Jeremie BITSCH

Software Engineer
Generative AI & Geospatial Expertise

jeremie.bitsch@gmail.com

linkedin.com/in/jeremie-bitsch

www.jerenyon.dev

+1 (438) 394-5896

Québec, Canada

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, Hugging Face, CrewAI, PyTorch, TensorFlow, Keras, OpenAI, Vercel AI SDK, ChromaDB, Neo4J

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

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

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

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 a Software Engineer with a deep foundation in geospatial sciences, specializing in Generative AI and full-stack development. With an MSc in Physical Geography and continuous learning in software engineering, I design and build intelligent automation systems powered by LLMs, RAG workflows, and AI agents.

Proficient in Python, TypeScript, FastAPI, and Next.js, I have developed scalable, cloud-native platforms and enterprise-grade AI solutions, from knowledge retrieval chatbots to AI agents for project estimation, deep research and analysis, and planning.

I lead innovation by merging data-driven geospatial analysis with modern AI workflows to achieve substantial gains in efficiency and accuracy.

EXPERIENCE

June 2022 ▶ Now
Telecon Design
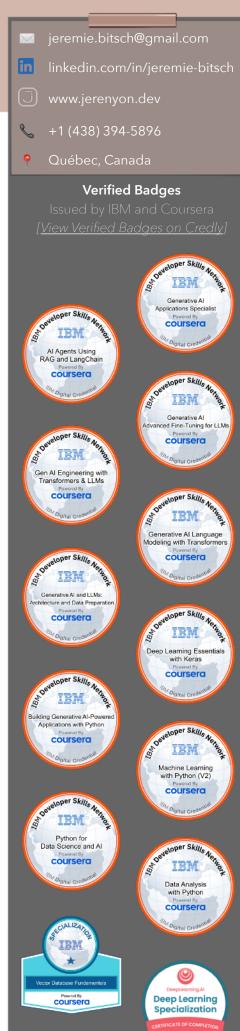*Remote*

Full-Stack Software Engineer | Continuous Improvement Advisor

▶ **Spearheaded** the design, development, and deployment of a cloud-based automation platform (Next.js, FastAPI, PostgreSQL, Docker, Azure) that significantly improved operational efficiency.

▶ **Designed** and deployed Generative AI solutions (RAG chatbots, AI agents) using LangChain, CrewAI, Chroma and Neo4J, reducing manual query resolution time by 50% and improving data accessibility.

▶ **Engineered** scalable APIs and data pipelines to integrate services and automate geospatial data workflows, reducing manual effort by over 60%.

▶ **Architected** and developed over 30 automation tools, including:
- Tools for geospatial data management (PostgreSQL/PostGIS), data processing, and report generation.
- A PDF audit report generator, reducing report generation time from 10 hours to under 1 hour.
- A gain and usage tracking system and dashboard to monitor automation impact and cost savings.

▶ **Implemented** CI/CD pipelines (GitHub Actions, Docker) and automated testing (unit, integration) to ensure seamless and reliable deployments.

▶ **Mentored** and coached junior developers, providing guidance on Python, geospatial technologies, software architecture, and code reviews.

Sept. 2024 ▶ Now
Jerenyon
Remote

Founder & Full-Stack Software Engineer

▶ **Founded** and developed Jerenyon, a platform that showcases and integrates AI-driven automation with geospatial solutions.

▶ **Designed** and implemented custom web applications (FastAPI, Next.js, Chroma, Neo4J) integrating advanced automation and Generative AI capabilities.

▶ **Created** a knowledge hub to document insights, methodologies, and lessons from real-world projects, sharing practical applications of AI and automation to support the developer community.

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📍 Québec, Canada

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Verified Badges
Issued by IBM and Coursera
[View Verified Badges on Credly]

Sept. 2021 ▶ now
NJAE Plume
Remote

Co-Founder & Full-Stack Software Engineer

- ▶ **Co-founded** and led the technical strategy and development of a custom e-commerce platform (Next.js, PostgreSQL, Stripe, Clerk, Bunny.net).
- ▶ **Designed** the platform's architecture and implemented full-stack solutions to support the sale of digital products.

July 2018 ▶ June 2022
Telecon Design
Montréal

GIS Automation Engineer | Fiber Network Designer

- ▶ **Engineered** and drafted fiber network designs for FTTx and PON architectures, ensuring compliance with industry standards and client specifications.
- ▶ **Pioneered** the integration of GIS technologies (QGIS, AutoCAD Map 3D) and Python automation to transform fiber network design workflows.
- ▶ **Developed** custom geoprocessing models and Python-based applications to automate tasks, achieving significant improvements in spatial analysis and operational efficiency.
- ▶ **Established** scalable PostgreSQL/PostGIS databases on Azure for geospatial data management, laying the foundation for future digital transformation.

CERTIFICATIONS

2025

- ▶ **Data Structures and Algorithms**
  UC San Diego, Coursera - [Verify Credentials]
- ▶ **Generative AI Engineering Professional Certificate**
  IBM, Coursera - [Verify Credentials]
- ▶ **Vector Database Fundamentals**
  IBM, Coursera - [Verify Credentials]
- ▶ **Microsoft Copilot for Software Development**
  Microsoft, Coursera - [Verify Credentials]

2022

- ▶ **TensorFlow Developer Specialization**
  DeepLearner.AI, Coursera - [Verify Credentials]
- ▶ **Deep Learning Specialization**
  DeepLearning.AI, Coursera - [Verify Credentials]
- ▶ **Machine Learning Specialization**
  Stanford University & DeepLearning.AI, Coursera - [Verify Credentials]

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.