BEN BERTON

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U.S. Citizen. Authorized to work in the United States without sponsorship.

EDUCATION

ETH Zürich (Swiss Federal Institute of Technology) **Zürich, Switzerland**
Master of Science, Science, Technology and Policy; Minor in Computer Science *September 2025 – September 2027*
Grade: 5.40 / 6.00
Relevant coursework: Big Data for Engineers, Advanced Programming, Agentic AI for Industry Transformation (in progress), Fundamentals of Software Systems (in progress)

Gonzaga University **Spokane, WA**
Bachelor of Arts, Computer Science; Minor in Economics | Summa Cum Laude, GPA 3.97 / 4.00 *August 2020 – May 2024*
Relevant coursework: Algorithms & Data Structures, Databases, Software Engineering, Regression Analysis, Game Theory

PROFESSIONAL EXPERIENCE

Ryan LLC **Bellevue, WA**
Consultant, Innovation (Internal Tools & Automation) *August 2024 – September 2025*
- Built an internal knowledge base for a distributed tax team in India: extracted content from unstructured Word documents in Python, designed a SQL schema to store it, and delivered a searchable wiki-style web application over the result
- Designed and deployed full-stack internal applications on an enterprise low-code platform, including relational schema design and query optimization in SQL
- Built data pipelines in Python and Alteryx to ingest, transform, and validate data across multiple business units, replacing manual workflows
- Gathered requirements from stakeholders and translated them into technical specifications

Kaiser Aluminum **Spokane, WA**
Project Lead, Senior Capstone Project (Gonzaga University) *September 2023 – May 2024*
- Led a student engineering team building a real-time computer vision system to read production codes from aluminum plates on the factory floor
- Architected and implemented the full stack: Node.js backend services, MariaDB persistence layer, and a web interface for plant operators
- Integrated Optical Character Recognition (OCR) output into existing production tracking workflows
- Owned architecture and requirements engineering in coordination with Kaiser engineers, under live plant deployment constraints

Ryan LLC **Bellevue, WA**
Innovation Lab Intern *May – August 2023*
- Built an AI-assisted drafting tool for grant and research and development tax credit applications using a private OpenAI language model deployment
- Implemented the application frontend and iterated on interface design with the design team

PROJECTS

Agentic Natural-Hazard Screening (Independent project) **ETH Zürich, 2026**
Built a prototype multi-agent system that screens Swiss properties for natural hazards. Subagents query federal geospatial data via MCP and the geo.admin API, use RAG over hazard guidance PDFs, and return an evidence-backed susceptibility level (~US$0.003/run).

Automated Literature Analysis Pipeline (MSc Case Study) **ETH Zürich, 2026**
Tested whether US and EU academic papers on emotion-recognition AI discuss regulation and ethics differently. Built a Python pipeline that retrieved 272 papers from the OpenAlex API, used a large language model to score each paper across six dimensions, and applied statistical hypothesis testing to the results. Found no significant regional difference.

TECHNICAL SKILLS

Programming Languages: Python, SQL, Java, C++, JavaScript, Haskell, HTML/CSS
Databases: MySQL, MariaDB, MongoDB, HBase, relational schema design, query optimization
Data and Distributed Systems: Data pipelines, Extract Transform Load (ETL), Apache Spark, Hadoop, MapReduce, JSONiq, data modeling, parallel programming
Applied AI: Large Language Model (LLM) applications, agentic and multi-agent systems, RAG, MCP, tool calling, prompt engineering
Modeling and Analysis: Applied statistical modeling, hypothesis testing, regression analysis, geospatial data
Tools and Platforms: Git, GitHub, Linux, Node.js, Alteryx, Power BI, Figma
Methods: Agile, distributed systems, software architecture, requirements analysis
Spoken Languages: English (Native), German (Conversational, B1–B2, actively improving)