

Bernardo Villalba Cahue

Software Engineer | Data-Intensive Systems & FinTech

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[LinkedIn \(https://www.linkedin.com/in/bernardo-villalba-cahue/\)](https://www.linkedin.com/in/bernardo-villalba-cahue/)

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Summary

Software Engineer with 8+ years of experience specializing in data-intensive systems and FinTech. Expertise in distributed full-stack applications, complex data pipelines, and modern cloud infrastructure. Ability to lead technical projects from concept to production, translating complex business needs into robust and efficient software solutions.

Technical Skills

- **Languages:** Python, Kotlin, Java, TypeScript/JavaScript, Scala, SQL, Matlab
 - **Cloud & DevOps:** AWS, Docker, Kubernetes, Terraform, Jenkins, Argo Workflows, Ansible, TeamCity, uDeploy, SBT
 - **Data Science:** Pandas, NumPy, DuckDB, Scikit-learn, NLP
 - **Backend:** Spring, Flask, PostgreSQL, Cassandra, Apache Storm, Jinja2
 - **Frontend:** React, Angular/AngularJS, Bootstrap, Ui-Grid
 - **Developer Tools:** Git, Github, Bitbucket, SVN, Jira, Pytest, Cypress, Salesforce, IntelliJ, Linux
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Experience

Founder & Lead Software Engineer

Narranomics | Minneapolis, Minnesota, United States | May 2023 - October 2025

- Led the development of an AI-driven, sentiment-based trading platform from concept to production.
- Developed and deployed a daily automated job to scrape and ingest publications from the Federal Reserve, expanding the platform's data sources to include key macroeconomic signals.
- Owned the entire front-end development lifecycle using React and TypeScript, including a specialized data-labeling application that improved the quality of our NLP model training data.
- Designed and implemented a parallelized simulation framework using Docker, Argo Workflows, and AWS to backtest thousands of trading strategy parameters, reducing the R&D cycle from days to hours—an efficiency gain of over 90%.
- Translated business goals into a technical roadmap, led full-stack architectural decisions, and presented the platform's strategy and performance to prospective investors and key stakeholders.

Software Engineer, Science and Modeling

CIBO | Minneapolis, Minnesota, United States | June 2021 - May 2023

- Maintained and scaled a complex data processing pipeline to support the science and modeling team's research and development efforts.
- Developed Python scripts to automate data tabulation and analysis, improving the efficiency of data preparation for modeling.
- Built and executed custom simulations using a variety of data inputs to deliver key modeling insights for external clients.

Full Stack Software Developer

CarVal Investors | Minneapolis, Minnesota, United States | June 2020 - May 2021

- Played a key role in a small agile team that migrated software development from a third-party vendor to an in-house team.
- Contributed across the full product lifecycle, including product ownership, UX design, and full-stack software engineering.
- Focused on the development, maintenance, and strategic consolidation of internal business and investment analysis applications.

Software Engineer

Virgin Pulse | Minneapolis, Minnesota, United States | January 2019 - June 2020

- Developed and maintained features for a complex rules engine that executed gamified rewards to nudge members towards healthier behaviors.
- Served as a key contributor on the team that built the company's live services coaching platform.
- Engineered solutions that incorporated third-party software, including Salesforce Health Cloud, into the core platform.

Technology Analyst (Software Engineer)

Deutsche Bank | Cary, North Carolina, United States | July 2016 - September 2017

- Implemented new features and documented code for DB Entitlements, the bank's largest internal authorization application.
- Developed a new UI for the Distressed Products Group to visualize and edit complex financial instruments.
- Automated the generation of three weekly reports for the trading team, saving approximately 9 person-hours per month.

Projects & Ventures

Narranomics - AI-Powered Market Analysis Platform (Founder & Researcher)

September 2018 - May 2023

- Led the technical development of a research project to predict financial market movements by analyzing sentiment in news articles, culminating in a successful funding round.
- Scaled the platform's architecture for advanced data processing, migrating the system from a local distributed computing cluster to a serverless model on AWS Lambda.
- Enhanced the core natural language processing (NLP) model by replacing the initial n-gram approach with a transformer-based architecture to improve accuracy.
- Forged and managed data-sharing relationships with premier financial publishers, including the

Financial Times and Dow Jones, to secure a robust pipeline of research data.

Education

UCL

Master's degree, Cognitive and Decision Making Sciences (2017-2018)

University of Minnesota-Twin Cities

Bachelor's degree, Mathematics with a focus on Computer Applications (2012-2016)

Minor, Computer Science (2012-2016)

Additional Information

Languages: English (Native or Bilingual), Spanish (Native or Bilingual), French (Professional Working)

Publications: Predicting PAC from UPDRS Scores

Certifications: Series 3