

# Gabriel Brown

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## EDUCATION

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### Freie Universität

*M.Sc. Data Science*

**Expected: March 2027**

*Berlin, DE*

- **GPA: 1.0 (EU Scale)**
- **Relevant Coursework:** Machine Learning, Deep Learning, Data Visualization, Time Series Analysis

### Columbia University

*B.A. Computer Science, Mathematics*

**Graduated: May 2020**

*New York, NY*

- **GPA: 3.8/4.0 (US Scale)**
- **Relevant Coursework:** Data Structures, Algorithms, Linear Algebra, Probability, Statistics, Calculus, ODEs, Real Analysis, Abstract Algebra
- Co-president of Columbia Rocketry Club

## WORK EXPERIENCE

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### Sauce Labs GmbH

*Software Engineer*

**Feb. 2022 – May 2023**

*Berlin, DE*

- [Sauce Labs](#) is a platform for web and mobile application testing and error monitoring with over 300k users.
- I was one of two Android Reverse Engineers at the company, leading data-driven performance optimization and systems engineering for Sauce Labs' Real Device Cloud, supporting automated mobile app testing on thousands of Android devices.
  - Collaborated with a cross-functional team to reduce Android session startup delays >1 minute by ~80% by analyzing performance logs and identifying bottlenecks, then implementing optimized APK unpacking logic.
  - Worked with the infrastructure team to design and deploy an APK resource caching microservice (Golang, Docker, Terraform, GCP) that accelerated test session spin-up by ~10%.

### Back Technologies GmbH

*Software Engineer*

**Sept. 2020 – Jan. 2022**

*Berlin, DE*

- Back was a back-office automation platform, acquired by Personio a few months after I left.
- As Backend Software Engineer at Back Technologies, I built data models, APIs, and messaging integrations to support automated HR workflows in a fast-paced, startup environment.
  - Collaborated with sales and product teams to launch chat integrations for Microsoft Teams and Google Chat, enabling our sales team to close 7 new deals with companies using these messaging tools.
  - Worked with cross-functional teams to design and deploy HR features (e.g., time-off and sick day tracking) using Go, Protobuf, PostgreSQL, AWS, and GitHub Actions; owned full feature lifecycle from development and testing to production and monitoring.

## PROJECTS

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### [Tenant Rights RAG App](#)

- A legal assistant built in Python, FastAPI, LangChain, and OpenAI GPT-4 with RAG architecture, processing German tenancy law documents through FAISS vector embeddings to deliver accurate, conversational legal advice with proper citations.

### [Poker Bot](#)

- A poker-playing AI built in Python using reinforcement learning and Markov decision processes.

### [Additive Synthesizer VST](#)

- A virtual synthesizer built in C++ with JUCE using Fourier analysis.

## RESEARCH EXPERIENCE

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**Columbia University, Columbia Internet Real-Time Lab****2019 - 2020***Research Assistant, Software Engineering**New York, NY*

- Developed [anomaly detection software](#) to identify infected IoT devices on real-time networks.

**Columbia University, Nevis Labs****2017-2018***Research Assistant, Data Science**New York, NY*

- Analyzed antiparticle simulation data in Python generated with Geant4.

**SKILLS & INTERESTS**

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- **Languages:** Python, SQL, Go, Java
- **Tools:** PyTorch, Pandas, Scikit-learn, NumPy, Altair, Git, Bash, Docker, Github Actions, Jenkins, AWS, GCP, FAISS, LangChain
- **Interests:** Rock Climbing, 90's IDM, Haruki Murakami novels