

Joseph Rissman

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Summary

Biotechnologist turned Software Engineer combining 6 years of bench experience and programming acumen with a Master's in Computer Science. Leverages deep domain knowledge to build applications that bridge the gap between science and code. Dedicated to advancing drug discovery by translating complex requirements into robust, user-centric software solutions.

Work Experience

Dash Bio

Mar 2026 - Present

Associate Software Engineer

Waltham, MA

Engineered full-stack software solutions for an integrated robotic science platform, powering GLP-compliant bioanalysis through laboratory automation to accelerate drug development.

- Led the initiative to standardize software requirements under Good Documentation Practices (GDP/GDocP) and instituted automated unit and integration testing best practices across the team to maintain robust GxP compliance.
- Architected GraphQL APIs and SQL databases unifying hardware orchestration and data management, ensuring automated Hamilton liquid handler runs are reliably captured and processed to advance research, preclinical, and clinical workflows.
- Built React user interfaces enabling scientists and automation engineers to manage hardware configurations, samples, and reagents, supporting protocols executed across integrated automated robotics systems and instruments.
- Partnered with cross-functional users to iteratively translate method development requirements into software specifications.
- Collaborated with engineering peers through rigorous code review to deliver clean, maintainable and well-documented code.

Intellia Therapeutics

Nov 2019 - Jan 2025

Associate Scientist

Cambridge, MA

Evaluated therapeutic candidates in preclinical models by identifying and investigating off-target genome editing events to ensure the safety and efficacy of potential treatments for patients.

- Managed a junior scientist to successfully prepare over 1000 samples per month for NGS sequencing, resulting in a 25% increase in sequencing throughput.
- Evaluated five methods for sequencing potential CRISPR off-target sites. Applied data science techniques to select and implement the most cost-effective and sensitive method, resulting in a 50% reduction in the cost of library preparation.
- Implemented high-throughput sample and library preparation for CRISPR off-target editing experiments using automation, achieving a 60% reduction in hands-on time and an increase in data quality.
- Developed a streamlined NGS data analysis pipeline for CRISPR experiments, incorporating algorithms for indel and structural variation detection, which enhanced the statistical power of downstream analysis.
- Supported the automation team in the optimization and validation of high-throughput NGS library preparation methods, leading to a 20% increase in lab efficiency and 15% decrease in costs.
- Communicated the impact of optimizing NGS methods on cost reduction and efficiency to senior management, leading to increased adoption of best practices and new technologies within the organization.
- Designed and implemented lightweight data models using Python to facilitate team self-service, accelerating the evaluation of experimental results.
- Communicated NGS data analysis findings to project teams with varying technical expertise, translating complex genomic data into actionable insights and recommendations, improving stakeholder alignment on key decisions.

Massachusetts General Hospital

Jul 2018 - May 2019

Research Technician II

Boston, MA

Designed and executed bacterial cloning experiments for novel genome editing tool development, creating five hundred new constructs. Analyzed NGS and Sanger sequencing data to evaluate genome editing efficiency in human cells.

Moderna Therapeutics

Jul 2017 - Dec 2017

Research Assistant Co-op

Cambridge, MA

Leveraged AWS cloud computing and Unix environments to process and model complex RNA sequencing data for mRNA secondary structure prediction. My analysis provided insights that directly informed the design and optimization of mRNA-based therapeutics.

Neon Therapeutics (acquired by BioNTech)

Jun 2016 - Dec 2016

Research Associate Co-op

Cambridge, MA

Performed immunological assays (ELISPOT and FACS) to analyze viral peptide recall responses in human PBMCs, contributing to vaccine design. Successfully completed over one hundred ELISPOT assays during the six-month co-op.

Projects

GradAid https://gradaid.online/	Jan 2025 - May 2025
<i>Lead Developer</i>	<i>Boston, MA</i>
Architected and delivered a full-stack EdTech platform that leverages generative AI to assist international students in drafting tailored application documents, significantly lowering barriers to US graduate admissions.	
- Directed technical decision-making and contributed 80% of the production codebase, effectively bridging the gap between frontend UX requirements and backend architecture. - Established a comprehensive CI/CD-ready testing suite, authoring 95% of all tests (over 600 unit and integration tests) using Vitest and React Testing Library, achieving 94% line coverage to ensure system stability and prevent regressions. - Engineered the complete serverless backend infrastructure using Convex and TypeScript, implementing a reactive database schema, role-based access control (RBAC), and secure API endpoints to ensure data privacy and real-time synchronization. - Orchestrated seamless third-party integrations, including Clerk for secure identity management, OpenAI for LLM text generation, and Resend for transactional email services. - Developed the core AI integration logic, implementing server-side execution of engineered OpenAI prompts to generate context-aware academic documents based on user profile data and university-specific requirements. - Built responsive, accessible UI modules using React, Vite, Tailwind CSS, and Shadcn/ui, focusing on the Application Tracking dashboard and the complex state management required for the AI document editor.	

Education

Boston University	May 2025
<i>Master of Science, Computer Science Data Analytics Concentration GPA: 4.0</i>	<i>Boston, MA</i>
Northeastern University	May 2018
<i>Bachelor of Science, Biochemistry Mathematics Minor GPA: 3.7</i>	<i>Boston, MA</i>

Certifications

AWS Certified Machine Learning Engineer – Associate Amazon Web Services	Dec 2025
AWS Certified AI Practitioner Amazon Web Services	Nov 2025
AWS Certified Cloud Practitioner Amazon Web Services	Nov 2025

Skills

Software/Data Engineering: Typescript, Node.js, React, Next.js, Astro, Kubernetes, SQL, AWS	
DevOps & Security: CI/CD, GitHub/Git, Code Generation AI, Vulnerability Management, Automated Patching, Pulumi	
AI/ML: Python, R, TensorFlow, PyTorch, LLMs, Vector Databases, RAG, Prompt Engineering, Model Fine-tuning, MLOps	
Core Competencies: Scientific Report Writing, Technical Documentation, Cross-functional Collaboration, Agile Methodology	