Benjamin Kataoka

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EDUCATION

Northeastern University — August 2022 – May 2026
B.S. in Computer Science, Minor in Economics, 3.9/4.0 GPA — *Boston, MA*
Relevant Coursework: Artificial Intelligence, Machine Learning and Data Mining, Natural Language Processing, Object-Oriented Design, Algorithms and Data, User Experience Design, Computer Systems

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, HTML/CSS, SQL, TypeScript, C, C++, VBA
Frameworks: React, NextJS, Node.js, Pandas, SwiftUI
Technologies: Git, Docker, Google BigQuery, VS Code, Intellij, PyCharm, MongoDB, MySQL, Latex, Power Automate

EXPERIENCE

Software Engineering Co-op — January 2025 – Present
Longfellow Investment Management — *Boston, MA*
- Automated critical notifications regarding upcoming maturities and deadlines by leveraging Power Query and Python scripts, streamlining data extraction and report generation to enhance operational efficiency.
- Leveraged the NodeZero API to conduct security vulnerability assessments, identifying and analyzing potential threats to provide actionable insights that bolstered the organization's cybersecurity resilience.
- Designed and optimized data pipelines for investment analytics, enabling real-time insights and improving decision-making efficiency for portfolio managers.

Teaching Assistant - CS3000 Algorithms and Data — September 2024 – December 2024
Northeastern University — *Boston, MA*
- Provided individualized tutoring and mentorship to 400+ students, significantly improving understanding of complex algorithms and data structures.
- Collaborated with the course instructor to design challenging problem sets, prepare engaging lecture materials, and introduce innovative teaching methods, resulting in improved student engagement and comprehension.

Research and Development Intern — May 2024 – August 2024
Otsuka Pharmaceuticals — *Princeton, NJ*
- Collaborated with Quality Managers to develop and refine Digital System Validation (DSV) and Computer Software Assurance (CSA) processes, ensuring compliance with regulatory standards and improving efficiency.
- Validated over 1,700 documents, boosting documentation accuracy and consistency by 30% across quality management systems, streamlining audits and compliance reviews.
- Developed and optimized SQL schemas to structure and manage quality management system data, enhancing data integrity, retrieval efficiency, and compliance tracking.

PROJECTS

RoadTrip Pal | *VS Code, HTML, CSS, JavaScript, Google API, Node.js, React* — February 2025
- Developed an interactive web application for road trip planning, leveraging Google Maps, Routes, and Places APIs to provide real-time routes, dynamic waypoints, and nearby lodging options.
- Engineered a responsive and intuitive user interface with React and modern styling frameworks, ensuring seamless navigation and engaging user experiences.

Reinforcement Learning Self-Driving Car | *PyCharm, TensorFlow, PyTorch, Gymnasium API* — January 2024
- Developed a self-driving car simulation using advanced deep reinforcement learning algorithms like Proximal Policy Optimization (PPO) and Deep Q Networks (DQN).
- Optimized algorithmic performance through rigorous experimentation with CNN architectures.

Marble Solitaire | *Java, IntelliJ, Git, OOP* — June 2023
- Designed and developed a fully functional Marble Solitaire game, applying object-oriented programming principles to create a modular, scalable, and maintainable architecture.
- Leveraged Git for version control, facilitating structured code management, streamlined debugging, and efficient collaboration throughout development.