

Ishan Rai

(857) 832-1832 | rai.ish@northeastern.edu | [linkedin.com/in/ishanrai17](https://www.linkedin.com/in/ishanrai17) | Boston, MA

Education

Northeastern University, Boston, Massachusetts

Master of Science in Computer Science

Relevant Courses: Database Management Systems, Web Development, Algorithms

September 2024 – May 2026

GPA: 4.0

PES University, Bangalore, India

Bachelor of Technology in Computer Science

Relevant Courses: Data Structures, Computer Networks, Operating Systems, Object Oriented Design

August 2018 – May 2022

GPA: 3.7

Technical Skills

Programming Languages: Ruby, Python, Java, C++, Typescript, HTML, Bash, R

Frameworks/Cloud: Rails, GraphQL, Redis, Hadoop, AWS, Apache Spark, Docker

Databases: PostgreSQL, MySQL, SQLite, Firebase, MongoDB

AI/ML: Tensorflow, CUDA, GPU, LEAF

Software Developer Experience

BetterCloud, Bangalore, India

Software Engineer 2

March 2024 – August 2024

- **Eliminated 40% of manual data** parsing effort by building an **intelligent financial data extraction system** using AWS Textract and ChatGPT API to convert PDF contracts directly into normalized database records.
- **Improved data extraction scalability by 30%** through task decomposition and execution on a SideKiq microservice.
- Designed the **cross-platform database migration strategy** during the acquisition, scaling infrastructure to support a merged user base, enabling unified product access while preserving user context across both applications.

G2, Bangalore, India

Software Engineer 1

July 2022 – March 2024

- Scaled enterprise compliance monitoring by redesigning the core process to use GraphQL Dataloaders, Indexes, Materialized Views, and asynchronous refresh jobs on SideKiq, **reducing load times by 89%** (from 18s to 2s).
- Drove a **40% increase in data generated** for real-time customer spend analytics by designing and implementing Track's contract drafting ecosystem, leading to improved revenue optimization opportunities.
- Developed Track's Inbox, **increasing operational efficiency by 30%** for global enterprise users by consolidating disparate actionable items into a single interface.
- Accelerated product delivery lifecycle by optimizing the Rspec testing infrastructure using batch processing and in-memory preloaders, resulting in **90% faster boot times** and **60% reduction in deployment time**.
- Prototyped a highly functional Google Chrome extension enabling real-time tracking of product license usage, recognized as the winner of G2's 2023 APAC Hackathon.

Software Intern

January 2022 – June 2022

- Expanded our SSO customer base by 20% by implementing a new SAML integration for Jumpcloud.
- Built CSV export with custom filters for API-sourced data from Azure, Xero, M365, and other tenants.
- Led all SAML-related data operations for G2 via Ruby scripts.

Publications

[*A Compression Framework for Reducing Cost of Communication in a Federated Learning setup on a Non-IID Dataset*](#)

- Used GPU accelerated K-means clustering and encoding to compress a 500,000-parameter Convolutional Neural Network weight matrix by 98%, thereby reducing network latency for distributed Deep Learning.

Projects

Pharmaceutical Sales Data Warehouse & Analytics Platform - Developed an R-based ETL pipeline to transform CSV data into a MySQL star-schema warehouse with partitions for efficient queries.

Image Editing Application - Designed an application in Java and Swing that enables users to load images and perform operations such as blurring, resizing, filtering and custom mathematical operations through a GUI.

Computational Framework for Page Ranking - Implemented a PageRank algorithm to compute web page ranks using hyperlink data, implemented as distributed MapReduce tasks with Hadoop and Python.