Sourabh Bajaj

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EDUCATION

Georgia Institute of Technology

Atlanta, GA Master of Science in Computer Science; GPA: 4.00 Aug. 2012 - Dec. 2013

Birla Institute of Technology and Science

Pilani, India Bachelor of Engineering in Electrical and Electronics; GPA: 3.66 (9.15/10.0) Aug. 2008 - July. 2012

Papers

• ChatKBQA: A Generate-then-Retrieve framework for Knowledge Base QA (ACL 2024).

• Text2NKG: N-ary relation extraction for KG construction (NeurIPS 2024).

- HyperGraphRAG: Structured retrieval and reasoning with hypergraph-based RAG (under review at NeurIPS 2025).
- Graph-R1: Structured retrieval and reasoning with hypergraph-based RAG (under review at NeurIPS 2025).

EXPERIENCE

Google Mountain View, CA

Software Engineer Oct 2016 - Present

• Tensorflow: TensorFlow is an open source software library for numerical computation using data flow graphs; primarily used for training deep learning models.

• Apache Beam: Apache Beam is a unified model for defining both batch and streaming data-parallel processing pipelines, as well as a set of language-specific SDKs for constructing pipelines and runners.

Coursera Mountain View, CA Jan 2014 - Oct 2016

Senior Software Engineer

• Notifications: Service for sending email, push and in-app notifications. Involved in features such as delivery time optimization, tracking, queuing and A/B testing. Built an internal app to run batch campaigns for marketing etc.

- o Nostos: Bulk data processing and injection service from Hadoop to Cassandra and provides a thin REST layer on top for serving offline computed data online.
- Workflows: Dataduct an open source workflow framework to create and manage data pipelines leveraging reusables patterns to expedite developer productivity.
- o Data Collection: Designed the internal survey and crowd sourcing platfowm which allowed for creating various tasks for crowd sourding or embedding surveys across the Coursera platform.
- Dev Environment: Analytics environment based on docker and AWS, standardized the python and R dependencies. Wrote the core libraries that are shared by all data scientists.
- o Data Warehousing: Setup, schema design and management of Amazon Redshift. Built an internal app for access to the data using a web interface. Dataduct integration for daily ETL injection into Redshift.
- Recommendations: Core service for all recommendation systems at Coursesa, currently used on the homepage and throughout the content discovery process. Worked on both offline training and online serving.
- Content Discovery: Improved content discovery by building a new onboarding experience on coursera. Using this to personalize the search and browse experience. Also worked on ranking and indexing improvements.
- o Course Dashboards: Instructor dashboards and learner surveying tools, which helped instructors run their class better by providing data on Assignments and Learner Activity.

Lucena Research Atlanta, GA Data Scientist Summer 2012 and 2013

o Portfolio Management: Created models for portfolio hedging, portfolio optimization and price forecasting. Also creating a strategy backtesting engine used for simulating and backtesting strategies.

o QuantDesk: Python backend for a web application used by hedge fund managers for portfolio management.

PROJECTS

- QuantSoftware Toolkit: Open source python library for financial data analysis and machine learning for finance.
- Github Visualization: Data Visualization of Git Log data using D3 to analyze project trends over time.
- Recommendation System: Music and Movie recommender systems using collaborative filtering on public datasets.

PROGRA	MMING	SKILLS
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• Languages: Scala, Python, Javascript, C++, SQL, Java	Technologies: AWS, Play, React, Kafka, GCE	
Programming Skills		
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