KARAN **KASHYAP**

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Brown University, RI

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EDUCATION

Brown University

Aug 2021 – May 2025 (Expected) | GPA: 4.0

Sc.B. in Computer Science (Software + AI/ML)
A.B. in Behavioral Decision Sciences

RELEVANT COURSES

Intro Computer Science – ***A***
Data Structures and Algorithms – ***A***
Linear Algebra – ***A***
Statistical Inference – ***A***
Discrete Structures and Probability – ***A***
Principles of Economics – ***A***
In progress: Deep Learning, Software Engineering, Microeconomics

SKILLS

General programming: Python, Java
Frontend: HTML, CSS, JavaScript (React, jQuery)
Backend: NodeJS, Express, Django, Flask
Databases: SQL, MongoDB
ML/AI: TensorFlow, Keras, SciKit-Learn, SpaCy, nltk, pandas

COURSE PROJECTS

Search Engine, Connect4AI (Minimax), Rackette (mini-interpreter for Racket built in ReasonML)

EXPERIENCE

Machine Learning Intern
SpaCy | nltk | Flask | HTML/CSS

Tata Digital *(June 2022 – Aug 2022)*

- Developed unsupervised NLP models to infer (from customer reviews) the top product features customers care about
- Implemented unsupervised-learning **aspect-based sentiment analysis** tool to map how customers describe each product with respect to each feature (**accuracy ~85%**)
- Designed product ranking system based on feature-specific customer reactions
- Integrated **topic-modelling** based customer review search tool
- Built system to identify market-wide improvement areas
- Designed crawler to scrape customer reviews (**100k+ reviews scraped**)
- Full-stack development of performant interactive dashboard webapp to serve NLP results

Executive Board Member (Projects Team)
Google BERT

Brown Data Science *(October 2021 – Present)* | (*project presentation*)

- Working in a team of 4 to predict stock prices using NLP models that analyze news headlines

Project Leader
Leadership | Strategy | Critical Thinking

Collegiate Consulting Group (CCG) *(September 2021 – Present)*

- Led team of consultants on a project with a corporate swag company
  - Ideated outbound sales process for the client (from scratch)
- Consulted for SaaS company in the Ed-tech space
  - Conducted competitor analyses, interviewed stakeholders, reviewed district improvement plans – recommended ideal geographies for business expansion

Investment Analyst
Investment Analysis | Public Speaking

Brown Healthcare Investment Group (BHIG) *(September 2021 – Present)*

- Helped invest money from a **portfolio of over $50,000**
  - Monitored stocks in the large-cap pharma and Healthcare-IT & Insurance sectors.
  - Successfully pitched companies to invest in, all of which have yielded profits

Software Engineering Intern
Django | APIs (Postman)

Sitare Foundation *(June 2020 – August 2020)* | (*internship evaluation*)

- Helped conduct examination for 300+ students from economically weaker families in India
- Designed backend APIs for registration, login, and data fetching
  - Forecasted to save 20+ man-hours daily during examination season

Student Researcher
Mathematica

Wolfram Program *(July 2020 – July 2020)*

- Explored computational thinking under the leadership of Dr. Stephen Wolfram
- Ideated and implemented a new technique, '*quantitative symbolic vectorization*', for a project-predicting mathematical integrals using machine learning
- Presented as a Computational Essay; **featured as part of Wolfram Staff Picks**

Student
TensorFlow | SciKit-Learn

Stanford University PreCollegiate Program *(June 2019 – July 2019)* | (*evaluation*)

- Explored intersection of machine learning (ML) and computer security (**adversarial ML**)
- Ideated and implemented an improved version of Random Forest Classifiers

PROJECTS

Full-Stack Software Engineer at FullStack@Brown
React | NodeJS

- Designing new website for Brown University's Bats and Moths Lab

Medium Articles (*link*)
Writing

- Authored articles on 'Medium', spanning topics in computer science, mathematics, and ML
- Author for 6 reputed publications; **50,000+ views**

Against Ambiguity (*preface*)
Writing | Philosophy

- Wrote a book, 'Against Ambiguity', on ethical challenges in science, technology, economics, and society; published on Amazon

PneumoML (*doctor's letter*) | (*award for project*)
TensorFlow | Keras

- Designed a computer vision based ML model (using transfer learning) to diagnose pneumonia patients using chest x-rays and other CURB-65 data
- **Initial accuracy ~95%**
- Worked with ENT specialist who used it in his practice for second opinions.

Research Paper (*paper*)
Deep Learning

- Authored a research paper which attempted to *Quantify the 'Deterioration' in the Performance of Image Classifying ML Models Under Whitebox Adversarial Attacks.*