

Yunus Kocaman

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EDUCATION

Brandeis University

Bachelor of Science in Computer Science

Waltham, MA

Aug. 2022 – May 2026

Coursework:

Data Structures and Algorithms, Object Oriented Programming, Fundamentals of Software Engineering, Operating Systems, Intro to Machine Learning, Intro to Computer Security, Intro to Probability and Statistics, Calculus, Linear Algebra, Discrete Structures, Natural Language Processing, Embedded Systems,

PROJECTS

MFA Lock | *Python, Flask, JavaScript, HTML, Socket.IO, Raspberry Pi, OpenCV, MicroPython*

- Built a secure smart lock system with **multi-factor authentication**, integrating 5 input methods and real-time access control.
- Programmed the 3.5" **HAT Mini touchscreen UI** for input selection, PIN entry, and authentication feedback.
- Integrated camera, tap, rotary, and audio sensors using **GPIO** and **event-driven logic** for efficient and responsive control.
- Implemented **Socket.IO**-based communication between two Raspberry Pis to coordinate authentication and control a servo-based locking mechanism.
- Developed a **Flask web interface** for user configuration and face registration using **OpenCV**-based facial recognition.

YumJunction | *JavaScript, CSS, HTML, React, Azure Services, Docker, CosmosDB*

- Led a team of students in developing a **full-stack** web recipe app using **React** and **Node.js**, acting as the point of contact with the PM (TA)
- Built a **backend server** to store and manage recipe data, integrating **JSON-based APIs** and **CosmosDB** for scalable storage.
- Designed a dynamic front-end with **React** and **Tailwind CSS**, allowing users to add and share their recipes.
- Implemented **Azure Services** for **cloud hosting, automated deployment, monitoring, and alerts**.
- Utilized **Docker** for containerized deployment, ensuring consistency across development and prod environments.

NLP Projects Repository | *Python, NLP, Machine Learning, Probability Models, Feature Extraction*

- Developed NLP models for **language modeling, POS tagging, and text classification**.
- Implemented n-gram models with **Laplace smoothing** and **MLE** to estimate sequence probabilities.
- Built a **Naive Bayes classifier** for **sentence segmentation** and **sentiment analysis**.
- Developed an **HMM-based POS Tagger** using **Viterbi** and **Greedy Decoding**.
- Trained a **Multiclass Perceptron** for **language identification** with **learning rate decay**.

EXPERIENCE

Boston Education and Counseling

Sep. 2022 – Present

Revere, MA

Youth Coordinator

- **Mentored and Supervised 30+ Students:** Provide weekly academic, social, and spiritual guidance to middle and high school students (grades 6–12), ensuring comprehensive support.
- **Led a team of 7 Mentors:** Manage and mentor a team of seven, equipping them with effective strategies to support student development.
- **Facilitated 15+ Youth Retreats:** Organized and led 7–10 day retreats focused on personal growth, leadership, and mentorship training.

TECHNICAL SKILLS

Languages: Java, Python, C, JavaScript/TypeScript, HTML, Swift, SQL

Full Stack Development: React, Next.js, Node.js, CSS/Tailwind, JUnit

Cloud services: CosmosDB, AWS, Azure, NoSQL

Developer Tools: Git, GitHub, Docker, Azure Services, Flask, Kali Linux, Scrum, Agile Development, Object-Oriented Programming (OOP), NLP concepts, RESTful API, Machine Learning, Data Science, Audio ML, Google Sheets

Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, Bootstrap, librosa