Yunus Kocaman

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Education

Brandeis University — Waltham, MA
Bachelor of Science in Computer Science — *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,

Experience

Pioneer Charter School of Science — Revere, MA
Data Engineering Intern — *Jul. 2025 – Present*

- Built **StrongSwan** site-to-site VPN on **EC2** to **automate daily** PowerSchool to **S3** data transfers.
- Configured **AWS Glue ETL** jobs to automatically process PowerSchool records, eliminating manual exports.
- Monitored pipeline health via **CloudWatch** & S3 metrics to ensure high availability.
- Developed and optimized **SQL** queries to extract and transform datasets for **ETL** and reporting.
- Populated **QuickSight** dashboards, cutting report time from ∼**30 min** to under **1 min**.

Boston Education and Counseling — Revere, MA
Youth Coordinator — *Sep. 2022 – Present*

- Mentored **30+** students, led a **8-person** team, and facilitated **15+** youth retreats.

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**
- 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**.

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(S3, Lambda, Glue, EC2, DMS, VPC), Azure, NoSQL
Developer Tools: Git, GitHub, Docker, Azure Services, Flask, Kali Linux, Scrum, Agile, OOP, NLP, RESTful API, ML, Data Science, Audio ML, Google Sheets
Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, Bootstrap, librosa