

## DENIZ TURKCAPAR

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### EDUCATION

#### The University of Chicago

Chicago, IL

Cumulative GPA: 3.4 / 4.0

Bachelor of Science in Computer Science and Data Science Specialization in Economics

Expected, Jun 2021

**Honors & Accomplishments:** Facebook University Data Analytics Batch Day Finalist 2019, Google Engineering Practicum Finalist 2019, Dean's List 2017-2019 (awarded to highest-achieving students at University of Chicago), Jeff Metcalf Fellow 2017-2019, University of Chicago Grace Hopper Scholarship 2019 (awarded to highest-achieving 5 students in a STEM field to go to the 2019 Grace Hopper Celebration)

### SKILLS AND RELEVANT COURSEWORK

**Skills:** Fluent in Python, SQL, R, Java, Ruby; experienced in C, STATA, JavaScript, C++, Arduino C, statistical modeling, A/B testing, market/user research, project management

**Technologies:** Apache Kafka, Linux, Kubernetes, Docker, Capistrano, Git, Jenkins, AWS (Amazon EMR & S3), Hadoop, Apache Spark

**Relevant Courses:** Intro to Software Development, Data Science for Computer Scientists, Big Data Analysis, Discrete Math, Statistical Models/Methods, Intro to Computer Science I-II, Linear Algebra, Calculus I-II-III, Machine Learning (planned for 2019-2020 term)

### WORK EXPERIENCE

#### PayPal

Chicago, IL

Software Engineer Intern in the Data Engineering Division

Jun 2019 - Aug 2019

- Implemented a Cronjob in Kubernetes to send heartbeat messages every 5 seconds and defined a DataDog plug-in, enabling the team to have data on Kafka topic lags in an interactive graph in terms of seconds of lag rather than message count for the first time
- Created and deployed sane memory related defaults and a dynamically adjusting heap size for certain topics in Kafka to eliminate crash loop back off completely in Kubernetes pods
- Maintained Kafka replication over multiple data centers and AWS regions to make all Kafka data (across physical data centers & AWS) readily accessible to all teams and applications

#### Becker Friedman Institute for Research in Economics

Chicago, IL

Data Scientist

Sep 2018 - Jun 2019

- Performed data cleaning and exploration using Python, R, and SQL to investigate the influence of the perception of Saudi husbands on the female labor force participation in Saudi Arabia
- Implemented scalable algorithms for similarity detection across analysis units in Python (Pandas) with ~60% gain in speed
- Worked on feature engineering and analyzed several datasets in detail to detect anomalies, outliers, and underlying patterns to increase model performance with ~43% faster results and increased accuracy in detecting similarities

#### Girls Who Code

San Francisco Bay Area, CA

Teaching Assistant

Jun 2018 - Aug 2018

- Taught a class of 20 minority female high school students, all of whom later placed into top colleges to study computer science, utilizing a project-based curriculum on foundational computer science at Walmart Labs to develop programming skills and soft skills
- Self-taught Javascript and Arduino C before the start of the internship and mastered Javascript, HTML, and CSS through personal projects
- Mentored and assisted coding projects, including large scale data analysis projects using JSON files and development of an IOS mobile app

### PROJECTS

#### Developing Kafka Tooling for managing and monitoring Kafka data replications and topics

Jun - Jul 2019

- Reduced load on Kafka brokers by 75% by implementing various Kafka tools, leading to reduction in redundant monitoring-mode time
- Designed and implemented a notification system infrastructure to alert all downstream dependents when a Kafka topic is misbehaving in a production environment using Capistrano task deployment system
- Set up a new cloud-based infrastructure to decrease load on Kafka brokers by 43% and keep Kafka tooling separate for other teams' usage

#### Predicting Yelp Elite status

Mar - Jun 2019

- Ingested large amounts of Yelp data via MapReduce jobs and used natural language processing (NLP) to assess whether elevated language in reviews help to become an Elite Yelp member
- Trained a logistic regression model using various hypothesized key factors to predict Elite status with 97.8% prediction accuracy
- Implemented a k-nearest-neighbors algorithm to find the most similar users with 95% accuracy in grouping Elite Yelp members together

#### Spellcheck tool that runs on Redis servers

Mar - Jun 2018

- Implemented a Trie data structure in C to efficiently spellcheck in an uploaded file in O(n) time
- Integrated the spellchecker tool to run on Redis servers to minimize latency and maximize performance via asynchronous replication

### LEADERSHIP ACTIVITIES

#### University of Chicago FEMMES (Females Excelling More in Math, Engineering, and Science)

Chicago, IL

Executive Board Member, Events Lead, Professor Outreach Lead

Oct 2017 - Present

- Organized the design and weekly training sessions for the Tech Capstone event, which encourages female middle school students to get involved with computer science and technology fields
- Taught computer science concepts to middle school students and introduced them to the field of computer science