Berkay **Barlas**

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Education

Koc University	Istanbul, Turkey
B.S. Computer Engineering	Oct. 2016 - Exp. May. 2021

- **Related Coursework:** Algorithms & Complexity, Computer Networks , Parallel Programming, Modern Cryptography

Koc University	Istanbul, Turkey
B.S. Electronics Engineering Double Major	Oct. 2015 - Exp. May. 2020

- **GPA 3.80 / 4.00** | Received 100% scholarship which is given to **top 300(%0.01)** among 2 million students.

Technical University of Munich (TUM)	Munich, Germany
Exchange student with Erasmus+ Full Grant	Apr. 2020 - Sept. 2020

- **Related Coursework:** Internet-scale Distributed Systems, Machine Learning for Computer Vision, Blockchain-based Systems

Nanyang Technological University (NTU)	Singapore
Exchange student with Full-Scholarship	Aug. 2019 - Dec. 2019

- **Related Coursework:** Artificial Intelligence and Data Mining

Research & Teaching Experience

Network and Distributed Systems Laboratory, Koc University	
Advisor: Prof. Öznur Özkasap	Jan. 2019 - Jun. 2019

- Worked on Skip Graph project which is used for blockchain and distributed system simulations.
- Developed Java implementations and test cases for node search and availability algorithms.

Stanford University CS Bridge Program	
Section Leader	Lecturer: Prof. Nick McKeown	Summer 2017, Summer 2018

- Helped 50+ high school students with their first experience in programming each year. Conducted laboratory sessions.

Koc University	
Teaching Assistant	Introduction to Programming	Fall 2017, Spring&Fall 2018

- Prepared and graded assignments, conducted problem solving sessions for Introduction to Programming course.

Koc University Arcelik Research Center for Creative Industries	
Advisor: Dr. M. Cengiz Onbasli	Oct. 2017 - May. 2018

- Built and deployed overall Internet of Things(IoT) project with Raspberry pi, camera, temperature and weight sensors.
- Developed native mobile application for Android.
- Used machine learning algorithm for food recognition and several AWS stack including Recognition, S3, DynamoDB and Lambda.
- Worked on a research about applications of wearable technologies in gamification and prototyped a hand controller with Arduino and 3D Printing.

Leadership & Volunteer Experience

Stanford University Hasso Plattner Institute of Design (d.school)	Stanford University & Remote
University Innovation Fellow	Oct. 2019 - Present

- Concluded a 7 week-long design thinking, innovation, and entrepreneurship online education.
- Carried out campus-wide projects to advocate for lasting institutional changes to increase sustainability and creativity.

Global Learning and Leadership Program	Istanbul, Turkey
Cofounder of Koc University Makerspace Lab	Sept. 2016 - Nov. 2019

- Funded by engineering faculty to design the space and chose the required tools after one year of pivot project.
- Coordinated team members and arranged workshops about computer science, creative skills, and social innovation.
- In Spring 2019, 40% of all senior engineering projects developed in fully student driven Makerspace.

AIESEC	Cairo, Egypt
Global Volunteer in Egypt	Summer 2015

- Was a member of an international team of 30 people which was responsible from building a school from throw-out materials such as plastic bottles, car tires in a poor island in Nile, Egypt.

Work & Internship Experience

Vagon.io
FULL-STACK SOFTWARE DEVELOPER

Remote
Mar. 2020 - Present

- Working on Web and back-end applications using React, Ruby on Rails, PostgreSQL, AWS, Docker.
- Built an module that installs softwares on machine images and distributes them to 8 cloud regions.
- Improved live streaming service performance by 30% using websocket connection and browser decorder APIs.
- Increased fraud detection, prevention methods and changed payment systems. Monthly fraud cases decreased by 80%.

Mozilla / Firefox Devtools
OPEN SOURCE CONTRIBUTOR

Remote
Jan.2020 - Mar. 2020

- Worked on Firefox projects, mainly on Firefox Devtools. Solved and reported issues on Github and Bugzilla(Phabricator).
- Created previewer that shows the visual content of website in timeline for performance recording tool Firefox Profiler.
- Reworked Firefox reader mode design and integrated reader specific buttons to work with browser settings.

Zeplin.io
SOFTWARE DEVELOPER INTERN

San Francisco,CA & Istanbul
Jun. 2019 - Aug. 2019

- Worked on React Web and Electron Windows applications and developed components that are used across all application.
- Migrated Profile Pages(Account settings, Billing, Subscriptions) to React JS from vanilla Javascript, HTML, CSS.
- Reduced code redundancy around 30% in Profile Pages and increased loading speed around 10%.

Trendyol.com
SOFTWARE DEVELOPER INTERN

Istanbul, Turkey
Jul. 2018 - Dec. 2018

- Developed web services for seller interface of e-commerce application using Java Spring Boot, REST API, RabbitMQ.
- Implemented new microservice features to Seller Portal that are used for adding and tracking products in marketplace.

Advanced Course Projects

Senior Design Project
EYE DISEASE CLASSIFICATION SYSTEM

Oct. 2020 - Present

- Implementing Machine Learning algorithms that can classify cataract, glaucoma and diabetic retinopathy from fundus images.
- Designing overall scalable cloud system and preparing front-end, back-end sides of project

Internet-scale Distributed Systems
REVIEW PAPER: YCSB VS BIGBENCH

Apr. 2020 - Aug. 2020

- Prepared and presented a paper that compares Yahoo! Cloud Serving Benchmark(YCSB) and BigBench Benchmark tools.
- Read and discussed total of 30 papers about recent Distributed Systems Technologies during semester.

Parallel Programming Course Project
CARDIAC ELECTROPHYSIOLOGY SIMULATOR

Jan. 2019 - Jun. 2019

- Implemented 3 versions of cardiac electrophysiology simulator that uses MPI ,OpenMP and Nvidia CUDA.
- Optimized mutli-core GPU performances of MPI ,OpenMP and Nvidia CUDA versions and prepared performance comparison report on different input scales.

Software Engineering Course Project
MULTITHREADED GAME WITH NETWORK

Oct. 2018 - Jan. 2019

- Developed an online game based on Ultimate Monopoly board game with a team of 5 people and acted as a team leader.
- Designed Network and Thread related parts of project and applied GoF desing patterns.
- Selected as the best project between 20 other projects by professor and TAs.

Honors & Awards

2019	**Pixery Hackathon'19 Best Project Award**, Ranked **1st** among preselected 12 teams
2019	**Ciceksepeti Hackathon'19 Best Project Award**, Ranked **1st** among preselected 30 teams
2018	**Zeplin Hackathon Special Jury Award**, Awarded as most enthusiastic team to learn new concepts and tools
2015	**Ranked 273th among more than 2 million Students**, Turkish University Attainment Exam
2011	**Ranked 1st among more than 1 million Students**, Turkish High School Attainment Exam