İlke Çuğu

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SKILLS

Python (9+ years), Java (4 years), Ruby, C / PostgreSQL / Redis / Docker, Kubernetes / Azure / PyTorch

EXPERIENCE

Microsoft, Istanbul, Turkey (2.5+ years)

May 2022 - Present

Software Engineer at Azure Cosmos DB for PostgreSQL & MongoDB vCore Team

- Tech stack: Ruby / Sinatra / Sidekiq / Redis / Postgres / Docker / Kubernetes / Azure DevOps
- Backend development for the large-scale distributed cloud services of Citus/Postgres & Mongo vCore
- Battle-tested by performing live migrations, handling outages, conducting RCAs, and deploying hotfixes
- Won Azure Data's QSEP and MSFT Turkey's Security Hero awards for leading FIPS 140-2 migration
- Won the Azure Databases Beacon Award for critical customer assistance and infra improvements
- Led the availability zone outage resiliency initiative for our control plane hosted on Azure
- Reduced cluster provisioning duration from 5 mins to 5 secs on avg for our most popular SKUs
- Automated control plane k8s cluster updates and fleet maintenance for fast security vuln management
- Completed end-to-end development of cert preprovisioning workflow for **OneCert outage resiliency**
- Co-created our service's unified security/migration/maintenance status dashboards via Azure Data Explorer

Max Planck Institute/Uni of Tubingen, Tubingen, Germany (1 year)

Jan 2021 - Dec 2021

Research Scientist at Explainable Machine Learning Group

- The findings of my research on robust & efficient computer vision are published at CVPRW'22

**Siemens**, Ankara, Turkey ( $\approx 4$  years)

Jan 2017 - Nov 2020

Software Engineer at Smart Infrastructure Department

- Tech stack: Python / Keras / MariaDB, Java / JavaFX / MSAccess
- Backend development and work on AI/ML for anomaly detection/event classification
- Initiated deep learning adoption in PQA for predictive maintenance (+17% accuracy)
- Improved real-time data processing by replacing server-to-client polling with client initiated connections
- 254x avg. speed-up on I/O bound operations via indexing and refactoring the database queries
- Designed and developed a new GUI for the transition from Swing to JavaFX

EDUCATION

Middle East Technical University, Ankara, Turkey

Sep 2016 - Dec 2018

M.Sc. in Computer Engineering

Middle East Technical University, Ankara, Turkey

Sep 2011 - June 2016

B.Sc. in Computer Engineering

SELECTED
OPEN-SOURCE
SOFTWARE

MicroExpNet • 139 ★ Main Contributor, AI/ML, Python, Tensorflow, 2017

- Codes of our conference paper on a very fast facial expression recognition model

ACVC ♥ 29 ★ Main Contributor, AI/ML, Python, PyTorch, Matplotlib, 2021

- Codes of our CVPRW'22 paper on single-source domain generalization in computer vision

Treelogy ♥ 3 ★ Contributor, Backend Development, AI/ML, Java, Python, Caffe, 2016

- Codes of our award-winning (\$1,000) Treelogy mobile app (peak 27,000+ users) and its tech report

psykedelic ♥ 2 ★ Main Contributor, AI/ML, Python, Keras, Matplotlib, 2020

- Codes of our tech report on convolutional neural net pruning via eigenvalue-based heuristics

spike\_pstrsv ♥ 2 ★ Main Contributor, Parallel Computing, C, OpenMP, Python, Matplotlib, 2019

- Codes of our journal paper that introduced a parallel solver  $2.47 \times$  faster than Intel MKL 2018's