İlke Çuğu cuguilke@gmail.com • linkedin.com/cuguilke • scholar.google/cuguilke • github.com/cuguilke

Skills

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

Experience

Microsoft, Istanbul, Turkey (3+ years) May 2022 - Present
Software Engineer at Azure Cosmos DB for PostgreSQL & MongoDB vCore Team
- Tech stack: Ruby / Sinatra / Sidekiq / Redis / Postgres / Linux / 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 **AZ outage resiliency** initiative that allowed our service to stay online during multiple outages
- 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 (≈ 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**× faster than Intel MKL 2018's