

ALPEREN GORMEZ

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EDUCATION

University of Illinois Chicago

Ph.D. Electrical and Computer Engineering

Chicago, IL

Aug 2019 – Present (2024)

• Cumulative GPA: 4.0 / 4.0

• Relevant Coursework: Machine Learning Systems Design (Stanford), Full Stack Deep Learning (UC Berkeley), Advanced Deep Learning & Reinforcement Learning (DeepMind), Neural Networks, Machine Learning, Parallel Processing (C, C++), Algorithms, Convex Optimization, Image Analysis & Computer Vision, Pattern Recognition, Digital Signal Processing, Digital Speech Processing

Bilkent University

B.S. Electrical and Electronics Engineering

Ankara, TURKEY

Aug 2015 – June 2019

• Relevant Coursework: Statistical Learning and Data Analytics, Neural Networks, Artificial Intelligence, Digital Signal Processing, Fundamental Structures of Computer Science, Probability and Statistics, Linear Algebra & Differential Equations

RESEARCH EXPERIENCE

University of Illinois Chicago

Research Assistant

Chicago, IL

Aug 2019 – Present

- Working on early exit neural networks, adaptive inference, and model compression with Prof. Erdem Koyuncu to decrease the computational cost of deep learning systems while preserving the performance
- Investigating the combined effects of early exiting, pruning and sparsity for the semantic segmentation task using PyTorch
- Experimenting on efficient distributed neural network training
- Managing an undergraduate intern on knowledge distillation and conditional computation research
- Participating in the following communities: EEML, tinyML, SNN

Nagoya University

Research Student

Aichi, JAPAN

May – July 2018

- Conducted research on pattern recognition and anomaly detection under the supervision of Prof. Kenji Mase

PUBLICATIONS

1. **A. Gormez**, V. Dasari, E. Koyuncu. “E²CM: Early Exit via Class Means for Efficient Supervised and Unsupervised Learning,” IEEE World Congress on Computational Intelligence (WCCI): International Joint Conference on Neural Networks (IJCNN), July 2022.
2. **A. Gormez**, E. Koyuncu. “Pruning Early Exit Networks”, Sparsity in Neural Networks 2022, July 2022.

WORK EXPERIENCE

Roku

Machine Learning Intern

San Jose, CA

May 2021 – Aug 2021

- Worked on reducing the inference time of a CTR prediction model in the Advertising Engineering team
- Used mlpy for cross feature generation and feature transformation, Apache Spark for big data processing and TFX for pipelining
- Increased AUC by 0.03
- Experimented with early exit networks and knowledge distillation using TensorFlow

Deep Learning Indaba

Mentor

Chicago, IL

Jan 2021 – Present

- Voluntarily mentoring a student to support machine learning and artificial intelligence in Africa

University of Illinois Chicago

Teaching Assistant

Chicago, IL

Aug 2019 – Present

- Taught digital signal processing and communications in MATLAB, helped students in the Neural Networks course

ASELSAN

Candidate Engineer

Ankara, TURKEY

Feb – May 2019

- Built neural networks in TensorFlow and classified the sounds received by a passive sonar
- Worked on the visualization of the data collected by ultrasonic sensors using Python and Julia. Found a faulty sensor using the data
- Implemented sonar signal processing algorithms in a Linux system for the acoustics signal processing department

HONORS & AWARDS

- **Eastern European Machine Learning Summer School 2022** – Selected to attend. Top-voted poster award for E²CM 2022
- **Bilkent University Honor Student** – High academic standing 2015-2019
- **Bilkent University Comprehensive Scholarship** – Full tuition waiver and stipend during the B.S. program 2015-2019
- **LYS Degree** – Ranked 341st in Turkey’s National University Entrance Exam among over 2 million students 2015