Aras Güngöre

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Education

Boğaziçi University — Istanbul, Turkey
B.Sc. in Electrical and Electronics Engineering; ***GPA: 3.62/4.00*** — *Sep 2018 – Jun 2023*
Minor Degree in Computer Engineering; ***GPA: 3.58/4.00*** — *Oct 2020 – Jun 2023*

Kocaeli Science High School — Kocaeli, Turkey
High School Diploma; ***GPA: 97.03/100*** — *Sep 2014 – Jun 2018*

Work Experience

Scale AI — San Francisco, California, United States (Remote)
Prompt Engineer — *Jul 2023 – Present*

- Developed effective Turkish prompts for diverse AI tasks and maintained a high standard of prompt quality and consistency across different competencies, adhering to established guidelines and best practices.
- Reviewed, validated, and scored the AI assistant's responses to ensure they align with intended AI assistant behaviors and the AI assistant produces accurate and contextually appropriate responses to given prompts.
- Engaged in collaborative meetings with cross-functional teams and project coordinators, actively seeking guidance, addressing queries, and collectively brainstorming strategies to generate higher quality prompts.

SESTEK Speech Enabled Software Technologies — Istanbul, Turkey
AI Research and Development Intern — *Jan 2022 – Feb 2022*

- Implemented common NLP tasks using transformers such as named-entity recognition (NER), part-of-speech (POS) tagging, sentiment analysis, text classification, and extractive/generative question answering.
- Built a generative question answering system via Dense Passage Retrieval (DPR) and Retrieval-Augmented Generation (RAG) using the Haystack framework with Python.
- Worked on a custom Turkish open-domain question answering system by fine-tuning a BERT base model transformer. Evaluated the exact match and F1 scores using different Turkish data sets and compared the evaluation results.

Meteksan Defense Industry Inc. — Ankara, Turkey
Analog Design Engineering Intern — *Jul 2021 – Aug 2021*

- Designed numerous analog circuits such as voltage-mode controlled buck converter, phase-shifted full-bridge isolated DC-DC converter, and EMI filters with LTspice. Integrated these circuits and implemented a 320 W power distribution unit to be used in a radar system's power circuit board.
- Researched real-world compatible electronic components to be used in such circuits including GaNFETs, high-side gate drivers, and Schottky diodes.
- Assembled PCBs of both common and differential mode filters and used VNA Bode 100 to measure the cut-off frequencies.

Research Experience

Max Planck Institute for Intelligent Systems — Stuttgart, Baden-Württemberg, Germany
Undergraduate Researcher — *Jun 2022 – Aug 2022*

- Worked in the Physical Intelligence Department with Ph.D. students Sinan Özgün Demir and Alp Can Karacakol on a project about 3D printing and heat-assisted magnetic programming of soft machines.
- Updated a ROS package for converting 3D motion controller events to ROS messages so that it synchronously operates at any given loop rate with C++.
- Implemented an Arduino Mega driver for controlling a fluid dispenser, a laser, thermocouples, and a coil set. Updated ROS nodes for parsing G-codes and controlling stage movement and built the ROS-Arduino communication network to simulate a 3D printing and magnetic programming process with Python.

Nanonetworking Research Group, Boğaziçi University — Istanbul, Turkey
Undergraduate Researcher — *Oct 2021 – Jun 2022, Part-time*

- Worked with Prof. Dr. Ali Emre Pusane on the project "Design and Implementation of Molecular Communication Systems Using Index Modulation" under the TÜBİTAK 2247-C Intern Researcher Scholarship Program (STAR).

- Simulated the Brownian motion of molecules in a SISO MCvD system and predicted simulation parameters such as receiver radius, diffusion coefficient, and transmitter-receiver distance using CNNs with Python.
- Plotted the arrival of molecules per symbol duration in a SISO MCvD system using Binomial, Poisson, and Gaussian model approximations with MATLAB.
- Ran Monte Carlo simulations of the Gaussian model to encode/decode randomized binary sequences in a SISO MCvD system using BCSK modulation technique and calculated the bit error rate (BER) on Z-channel.

Awards & Achievements

High Honors Degree: Awarded to Bachelor alumni who have graduated with a GPA greater than or equal to 3.50 by Boğaziçi University.

National University Admission Exam (YKS): Ranked 75^{th} in Mathematics and Science among ca. 2.3 million candidates with a test score of 489.92/500.

KYK Outstanding Success Scholarship: Awarded to undergraduate students who have been ranked in the top 100 on National University Admission Exam by Higher Education Credit and Hostels Institution (KYK).

Boğaziçi University Success Scholarship: Awarded to undergraduate students who have been ranked in the top 100 on National University Admission Exam by Boğaziçi University.

TÜBİTAK 2247-C Intern Researcher Scholarship: Awarded to undergraduate students who take part in research projects carried out by the Scientific and Technological Research Council of Turkey (TÜBİTAK).

Duolingo English Test (DET): Overall Score: 135/160

Kocaeli Science High School Salutatorian Award: Graduated as the second-highest ranked student in my class.

Projects

Filters and Fractals | *GitHub*

- A C project which implements a variety of image processing operations that manipulate the size, filter, brightness, contrast, saturation, and other properties of PPM images from scratch.
- Added recursive fractal generation functions to model popular fractals including Mandelbrot set, Julia set, Koch curve, Barnsley fern, and Sierpinski triangle in PPM format.

Chess Bot | *GitHub*

- A C++ project in which you can play chess against an AI with a specified decision tree depth that uses alpha-beta pruning algorithm to predict the optimal move.
- Aside from basic moves, this mini chess engine also implements chess rules such as castling, en passant, fifty-move rule, threefold repetition, and pawn promotion.

CMPE 250 Projects | *GitHub*

- Five Java projects assigned for the Data Structures and Algorithms (CMPE 250) course in the Fall 2021-22 semester.
- These projects apply DS&A concepts such as discrete-event simulation (DES) using priority queues, Dijkstra's shortest path algorithm, Prim's algorithm to find the minimum spanning tree (MST), Dinic's algorithm for maximum flow problems, and weighted job scheduling with dynamic programming to real-world problems.

Skills

Programming: C, C++, Java, Python, JavaScript, MATLAB, R, SQL, MySQL, Git, Docker, Robot Operating System

Libraries: OpenCV, Scikit-Learn, PyTorch, Keras, TensorFlow, NumPy, Pandas, Matplotlib, Seaborn

Languages: Turkish (Native), English (Professional), German (Elementary)

Relevant Coursework

Major coursework: Materials Science, Electrical Circuits I-II, Digital System Design, Numerical Methods, Probability Theory, Electronics I-II, Signals and Systems, Electromagnetic Field Theory, Energy Conversion, System Dynamics and Control, Communication Engineering, Pattern Recognition, Introduction to Digital Signal Processing, Introduction to Digital Communications, Introduction to Database Systems, Introduction to Image Processing, Machine Vision

Minor coursework: Discrete Computational Structures, Introduction to Object-Oriented Programming, Data Structures and Algorithms, Computer Organization, Fundamentals of Software Engineering