

KEMAL BAYIK. MSc

Machine Learning Engineer

London, United Kingdom • kemalbayikuk@gmail.com • +44 7876 138928 • [LinkedIn](#) • [GitHub](#)

SUMMARY

I am a recent graduate with an MSc in Artificial Intelligence and Adaptive Systems from the University of Sussex, specializing in machine learning with hands-on experience using Python, PyTorch, and TensorFlow. I currently work as a Research Assistant at the Hohegger Lab, focusing on developing CNN models for microscopy image analysis. Previously, I contributed to a research project under the supervision of Dr. Ben Evans, developing CNN models to study desert ant vision for navigation tasks. My dissertation focused on self-supervised learning and transfer learning using variational and masked autoencoders to identify cancer cell therapeutic targets. Additionally, I have full-stack development experience with Flutter, React, and .NET. I'm actively seeking roles such as Machine Learning Engineer, Data Scientist, AI Engineer, or similar positions.

PROFESSIONAL EXPERIENCE

HOHEGGER LAB, UNIVERSITY OF SUSSEX

Brighton, United Kingdom

Research Assistant

October 2024-Present

- Developing Convolutional Neural Network (CNN) models for microscopy image analysis, focusing on cell division classification.
- Collaborating with interdisciplinary teams to enhance image-based biological research using machine learning techniques.

UNIVERSITY OF SUSSEX

Brighton, United Kingdom

Student Research Assistant

January 2024-Aug 2024

- Contributed to the development of CNN models for investigating desert ant vision in an EPSRC-funded research project.
- Collaborated on model design, data preprocessing, and optimisation, leading to significant performance improvements.

SPP42 INTERNATIONAL

Ankara, Turkey

Full Stack Software Developer

November 2022-June 2023

- Developed a Natural Language Processing-based document retrieval system and integrated it into a web application.
- Led the development of a mobile application using Flutter.
- Built a web application with the .NET Framework and SQL Server, along with APIs using Python (Sanic framework).

2C INFORMATION TECHNOLOGIES

Ankara, Turkey

Full Stack Software Developer Intern

June 2022-October 2022

- Led the development of smart transportation and smart parking system applications using Flutter, React, and Firebase.
- Developed a cryptocurrency and NFT wallet app with Flutter and Firebase, successfully delivering client-requested applications.

TOBB UNIVERSITY OF ECONOMICS AND TECHNOLOGY

Ankara, Turkey

Flutter Developer

September 2022-October 2022

- Contributed to the development of an End-to-End User Analytics Platform under the guidance of Professor Mehmet Burak Akgun as a TUBITAK Star Scholarship recipient (Scientific and Technological Research Council of Turkey).
- Developed, tested, and deployed user analytics features using Flutter, successfully integrating them into the research project.

GEKOSIS

Ankara, Turkey

Full Stack Software Developer Intern

January 2021-May 2021

- Developed a secure file storage mobile application using Flutter and Firebase with encryption features to protect data and user privacy.

BISOFT INFORMATION TECHNOLOGIES

Ankara, Turkey

Flutter Developer

May 2020-August 2020

- Contributed to web development projects using Angular and React, integrating services with NodeJS.

EDUCATION

UNIVERSITY OF SUSSEX

MSc in Artificial Intelligence and Adaptive Systems, Graduated with Distinction

Brighton, United Kingdom

September 2023-September 2024

TOBB UNIVERSITY OF ECONOMICS AND TECHNOLOGY

BSc in Computer Engineering

Ankara, Turkey

September 2015-October 2022

PROJECTS

Self Supervised Machine Learning For Predicting Cancer Dependencies

- Developed new deep learning models using Variational Autoencoders and Masked Autoencoders for dimensionality reduction and genomic dependency analysis. These models were applied to calculate the dependency scores of TCGA tumors on 1298 selected genes (DepOI) and to conduct synthetic lethality analysis.

Comparative Analysis of DeBERTaV3, LSTM with BERT Word Embeddings, and SVM in Propaganda Detection

- Developed and compared three models—DeBERTaV3, LSTM with BERT word embeddings, and SVM—for propaganda detection across two tasks: binary classification of propaganda presence and multi-class classification of propaganda types.

Comparative Analysis of GDE3 and NSGA-II Algorithms on Multi-Objective Capacitated Facility Location Problem

- Applied and compared the GDE3 and NSGA-II algorithms to solve the Multi-Objective Capacitated Facility Location Problem, focusing on minimising logistics costs and CO2 emissions in facility-to-store goods distribution under capacity constraints.

Stock Portfolio Optimization using Genetic Algorithms

- Developed and implemented a Genetic Algorithm (GA) to optimise the weights of a stock portfolio composed of 15 S&P 500 stocks, with the goal of maximising the Sharpe ratio. The portfolio was constructed using historical stock prices from May 5, 2012, to December 31, 2022, and tested with stock prices from January 1, 2023, to January 1, 2024.

SKILLS

- **Technical Skills:** Python, PyTorch, Keras, Tensorflow, Machine Learning, Deep Learning, Computer Vision, CNNs, NLP, Image Processing, Genetic Algorithms, Object Oriented Programming, Amazon Web Services, Matlab, SQL, Git, Firebase, Flutter
- **Soft Skills:** Effective Communication, Continuous Learning, Team Collaboration, Problem solving, Analytical Thinking, Time management, Adaptability, Attention to Detail
- **Language Skills:** English (C1), Turkish (Native)

AWARDS & CERTIFICATES

- **IELTS:** 7.0 (March 2023)
- **Flutter Turkey Hackathon Winner:** I was awarded first place in the hackathon organised by the Flutter Turkey team, due to the mobile application I developed for visually impaired individuals. (May 2021)
- **Scientific and Technological Research Council of Turkey (TUBITAK) Star Scholarship Winner:** Awarded to undergraduate students who take part in research projects carried out by the Scientific and Technological Research Council of Turkey (Jan 2022)