Gonca Yılmaz

Computer Science Student (M. Sc.)

▸ 29.11.1999 in Istanbul

▸ Turkish

Contact

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Soft Skills

▸ Teamwork

▸ Adaptability

▸ Time Management

▸ Proactivity

▸ Strong collaboration and communication skills

▸ Technical document writing

Technical Skills

▸ C++, Java, JavaScript, Python

▸ PyTorch, PySpark, OpenCV and data visualization libraries

▸ Deep Learning libraries like JAX, Tensorflow, Keras

▸ Data Structures and Algorithms

▸ Agile Methodologies

Objective

Looking for a job position in the field of Artificial Intelligence starting from September 2024. Currently working at Amazon as an Applied Scientist intern. My experience in research and programming, in addition to my effective working skills and my commitment to learning, ensures that I will make a positive contribution.

Education

Computer Science (M.Sc.)
09/2021 - Present

University of Zurich (UZH)

Major: Artificial Intelligence, Minor: Data Science
Relevant courses: Deep Learning, Vision Algorithms for Mobile Robotics, Foundations of Data Science, Advanced Topics in Artificial Intelligence, Introduction to Interactive-Visual Data Analysis
Student Activities: Events and IT Committee Member at ETH Entrepreneur Club. We organized Launch AI+X Summit (now called Launch Startup) in collaboration with ETH AI Center.

Research Projects

- **Domain Adaptation for Open Vocabulary Segmentation (Master Thesis):** Findings are submitted to *ECCV 2024* (see paper). Extended abstract version is published at *MMFM Workshop, CVPR 2024*. *Supervisors:* Dr. Hermann Blum, Dr. Francis Engelmann, Dr. Songyou Peng, Prof. Dr. Marc Pollefeys (ETH Zurich)

- **RGB-D Open Vocabulary Segmentation:** Using CLIP and Mask Former for RGB-D open vocabulary image segmentation task, paper published at *MMFM Workshop, ICCV 2023*, *Supervisors:* Dr. Songyou Peng, Dr. Hermann Blum, Prof. Dr. Marc Pollefeys (ETH Zurich)

- **Policy Search for Controller Tuning:** Weighted Maximum Likelihood for hyperparameter search for the MPCC controller, paper and video, published at *ICRA 2023*, *Supervisors:* Angel Romero, Yunlong Song, Prof. Dr. Davide Scaramuzza (UZH and ETH Zurich)

- **Unsupervised Domain Adaptation for Road Damage Detection:** UDA for Road Damage Detection on 2D images from Japan, Czech and India datasets. *Supervisors:* Ismail Nejjar, Prof. Dr. Olga Fink (EPFL)

Computer Science (M.Sc.) - Special Student
09/2021 - Present

ETH Zurich

Completed 49 ECTS of courses. *Relevant courses:* Computer Vision, Mixed Reality, Probabilistic Artificial Intelligence, Computational Semantics for Natural Language Processing (NLP), Natural Language Processing for Law and Social Science, Introduction to Social Networks, Machine Perception

Computer Science (B.Sc.)
08/2017 - 06/2021

Bilkent University

Comprehensive Scholarship Student
Graduated with Honors
Senior Project: „GymFeat: AI Fitness Trainer". (here is the **link** to our website)

Computer Engineering (B.Sc.) - Erasmus+
03/2020 - 08/2020

TU Dortmund
Dortmund, Germany

Exchange Student at TU Dortmund for a semester

- Mixed Reality, Unity (with HoloLens)
- Computer Vision concepts
- Transformers, Large Language Models
- Natural Language Processing
- Deep Learning

Languages

Turkish   Native

English   C1

German   B2

French   A2

Interests

- Piano
- Yoga
- Paragliding
- Cooking
- Travelling

Projects

- **Floor Plan Generation from 3D Furniture:** HoloLens app for interior design, uses object tracking

- **DANCER for Multi-Source Document Summarization:** Adapting DANCER, a single-source document summarization model (transformer) for multi-source document summarization task

- **Word Sense Disambiguation for Racial Bias Analysis:** analyzes New York Times corpora for the presence of racial bias using Word Sense Disambiguation model (transformers)

Work Experience

Applied Scientist Intern   05/2024 - 09/2024
Amazon
Berlin, Germany

Working with Amazon Fulfillment Technologies & Robotics team on developing novel computer vision solutions for warehouse automation.

3 x Software Engineer Intern   2021 - 2023
Google
Zürich, Switzerland

- *Google Search Quality (Summer 2023)*: using Large Language Models to improve Google Search ranking quality, the model will be deployed to search to serve billions of customers
- *Google Commerce Search Quality (Summer 2022)*: building tools for offline model analysis and computing further metrics to evaluate ranking models
- *Fitbit Mobile Device Infrastructure (Summer 2021)*: building a file storage microservice, to enable researchers to reach the raw data logs that are uploaded from Fitbit devices, while conducting an experiment

Part-Time Computer Vision Engineer   02/2023 - 05/2023
Flappie
Zurich, Switzerland

Flappie provides a cat flap where the door only opens if the cat is not bringing prey. I wrote the computer vision infrastructure for the smart cat flap where we detect whether the cat is bringing prey through the cameras placed in the flap.

Software Development Engineer Intern   07/2020 - 10/2020
Amazon
Berlin, Germany

Amazon Music ML: analyzing features of the recommendation systems in detail

Part-Time Software Developer   02/2020 - 08/2020
AlgoritiX, Prof. Dr. Yavuz Oruç
Remote

CodeAPeel, programmed with Java, aims to house Intel, Sparc, and MIPS ISAs. I programmed the compiler so it could accept some instructions.

Teaching Experience

Graduate Teaching Assistant   09/2022 - Present
ETH Zürich
Zürich, Switzerland

Environmental Systems Data Science (Fall 2023) by Prof. Dr. Loic Pellisier
Data Structures and Algorithms (Spring 2023) by Prof. Manuela Fischer and Prof. Felix Friedrich Wicker
Environmental Systems Data Science (Fall 2022) by Prof. Dr. Loic Pellisier

- **GymFeat:** Fitness app, which gives real-time feedback to the user's movements during a workout using pose estimation

Graduate Tutor

University of Zurich
Zürich, Switzerland

Foundations of Computing 2 (Fall 2021) taught by Prof. Dan Olteanu

Undergraduate Teaching Assistant

Bilkent University
Ankara, Turkey

Calculus 1 (Fall 2019) by Aydan Pamir
Introduction to Programming in Java (Spring 2019) by Aynur Dayanik

Publications

- "Weighted Maximum Likelihood for Controller Tuning", **Gonca Yilmaz***, Angel Romero*, Shreedhar Govil*, Yunlong Song, Davide Scaramuzza, *ICRA 2023*

- "MOVSeg: Open Vocabulary Segmentation from Multi-Modal Inputs", **Gonca Yilmaz**, Songyou Peng, Hermann Blum, *MMFM Workshop, ICCV 2023*

- "OpenDAS: Domain Adaptation for Open-Vocabulary Segmentation", **Gonca Yilmaz**, Songyou Peng, Francis Engelmann, Marc Pollefeys, Hermann Blum, *MMFM Workshop, CVPR 2024*