Serhan YILMAZ

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EDUCATION

Computer Science — *Bachelor of Science*   SEP 2021 - JUN 2025
Sabanci University   cGPA: **3.62**/4
- ***Relevant Coursework:*** Machine Learning, Digital Image Processing, Linear Algebra, Statistics, Discrete Math, Algorithms, Data Structures, Advanced Programming, Operating Systems, Database Systems
- Ranked **top 0.02%** among 2.9 million students in the National University Entrance Exam.

WORK EXPERIENCE

Carnegie Mellon University — *Research Assistant*   *Pittsburgh, PA (Remote)* | DEC 2023 - PRESENT
- Working with Prof. Kemal Oflazer on developing advanced question generation and paraphrasing algorithms.
- Employing transfer learning techniques and **fine-tuning language models** for semantic understanding in paraphrasing.
- Achieving **91% accuracy** in generating high-quality, diverse research questions from input data.
- Evaluating generated questions using the BLEU and METEOR metrics, scoring in the **top 10%** compared to existing benchmarks.

Yapi Kredi Bank — *NLP R&D Engineering Intern*   *Istanbul, Turkey* | OCT 2023 - APR 2024
- Improving document interpretation algorithms with OCR-free **Donut Transformers**.
- Fine-tuning **BERT and BERTurk** language models, cutting annotation effort through transfer learning techniques.
- Working with cross-functional teams to translate business requirements into effective NLP solutions.

EPFL Lausanne — *Summer@EPFL Intern*   *Lausanne, Switzerland* | JUN 2023 - SEP 2023
- Started the *Project Charisius*. A Project dedicated to creating robust, privacy-preserving Federated ML environments.
- Optimized gradient aggregation functions using **PyTorch and CUDA** to work up to **2200% faster**.
- **Published the charisius library**, for accelerated Statistics and Federated ML applications, up to **96% reduction** in the runtime.
- **Created 2 webpages:** the documentation of the library and another one with Flask backend to publish benchmarking leaderboards.

kAi Sabanci — *Club Founder/President*   *Istanbul, Turkey* | MAR 2023 - PRESENT
- **Founding and leading** kAi Sabanci, Sabanci University's AI club, attracting **600+ members with 80% participation rate**. Got kAi to become the **founding member** of the *NVIDIA Student Network*.
- Organized workshops on **Gen AI, NLP, Machine Learning and Deep Learning** and served as a **voluntary TA**.
- Selected for the **NVIDIA Student Spotlight** series for outstanding perseverance, dedication and achievement.
- Developed and managed several key projects in collaboration with academic faculty including the *kAi Sabanci website*, our *RAG-enabled Chatbot -ChatSU-* campus modeling using *NeRF for Omniverse* and *cat identification with Jetson Nano*.

Sabanci University — *Undergraduate Teaching Assistant*   *Istanbul, Turkey* | SEP 2022 - JAN 2023
- Wrote homework assignments for students and held weekly recitation and office hours.

Boston University — *Undergraduate Research Assistant*   *Boston, MA (Remote)* | JUN 2022 - SEP 2022
- Studied Threat Modeling and Component Design for large-scale server systems under the supervision of Prof. Rabia Tugce Yazicigil.
- Developed a tool using C++, providing up to **336** different combinations to design secure servers for resource-intensive applications.

Pharus Tech — *Intern*   *Stockholm, Sweden (Remote)* | JUL 2020 - SEP 2020
- Explored, visualized and processed data from the ESCO dataset, including **3008** occupations and **13890** skills.

Koc University — *Undergraduate Research Assistant*   *Istanbul, Turkey* | JUN 2020 - JUL 2020
- Worked with Prof. Hakan Urey to train a machine learning model on a dataset of **600** retinal images for cataract detection.

AWARDS

NVIDIA — *NVIDIA Student Spotlight*   MAR 2023 - PRESENT
- Selected for the NVIDIA Student Spotlight series for outstanding perseverance, dedication and achievement.

Sabanci University — *Sakip Sabanci Award for Outstanding Success*   SEP 2022 - PRESENT
- Ranked **top 4%** among the students in my term.

The Royal Swedish Academy of Engineering Sciences — *Innovation in Crisis*   MAY 2020 - PRESENT
- Received the Young Innovation in Times of Crisis Award as team United in Crisis, ranking in the **1st place** among all projects. Developing an algorithm to match workers and employers in the Covid-19 outbreak.

The New York Academy of Sciences — *Membership Award*   SEP 2019 - PRESENT
- Admitted into "The Junior Academy" program with an acceptation rate of **8%**.

SKILLS

- **Languages & Tools: Python, Java, Javascript, HTML/CSS, C, C++, Docker, Linux, AWS, Riva, Git**
- **Libraries: PyTorch, TensorRT, RAPIDS, JAX, cuDNN, TensorFlow, OpenCV, CUDA, Keras, Pandas, NumPy**