

# Jakub Frąć

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## EDUCATION

### Vrije Universiteit Amsterdam

Artificial Intelligence - Master's degree  
GPA: 8.47

2023 — 2025

### Warsaw university of Technology

Computer Science - Bachelor of Engineering

Thesis topic: Minimum Word Error Rate training for Attention based models

2018 — 2022

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## TECHNICAL EXPERIENCE

### Vrije Universiteit Amsterdam

Research assistant

Amsterdam, Netherlands

October 2024 — Present

- Developing a model for **mental disorder diagnosis based on multi-modal neuroimaging data**. The model is based on GNNs and we will utilize Information Bottleneck to find minimal graph substructure that would improve generalizability and interpretability.

### Booking.com

Software Engineering Intern

Amsterdam, Netherlands

July 2024 — August 2024

- Based on the existing architecture for **Machine Learning Inference**, I created a service to estimate cost of running various machine learning models in **Scala**. It helped other teams decide utility of an AI system in their projects at the planning stage.

### Vrije Universiteit Amsterdam

Teaching assistant

Amsterdam, Netherlands

February 2024 — Present

- Designed and implemented **NLP** research project for automatic grading of assignments with DbugIT platform.
- Helped coordinate various courses for undergraduate and graduate courses**. My responsibilities included teaching students lecture material, grading submissions or providing constructive feedback.

### Huawei

Software Engineer

Beijing, China

August 2022 — March 2023

- Designed and implemented concurrent **algorithms and data structures** for CPU in a novel programming language, delivering robust primitives that serve as basis for concurrent library.

### Huawei

Deep Learning Research Intern

Warsaw, Poland

August 2020 — August 2022

- Under Huawei's patronage I delivered my bachelor thesis "**Minimum Word Error Rate training for attention based models**" in **Tensorflow** framework improving accuracy of RNN-T based ASR models.
- Prepared a solution for clustering tester tickets written in natural language. I used **Transformer** models trained for NLP tasks with **Pytorch** framework to allow automatization of the process.
- Implemented and trained Weighted Finite State Transducer language model in **C++** to improve inference results for mobile devices. Also fixed a couple bugs in libraries written in **CUDA** for custom loss calculation.
- Implemented deep learning techniques in **Tensorflow** and **Pytorch** to research new directions that could possibly improve the performance of **ASR** models. Part of that task was to harvest and process datasets using **Numpy** and **Pandas**.
- Designed a batching algorithm in **Tensorflow** that **reduced training time of our ASR model by 30%**

### Chimera Prime

Software Engineer

Warsaw, Poland

February 2020 — July 2020

- Developed APIs for internal and external projects using **Ruby on Rails**.
- Designed and implemented an API for betting website in **Elixir** with **Neo4j** database.

### Daftcode

Software Engineer

Warsaw, Poland

July 2019 — February 2020

- In communication with a client I developed APIs for startups in **Ruby on Rails**. I used **REST** and **GraphQL** for communication and **Postgres** as a database. To ensure stable development and releases everything was containerized with **Docker**.

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## ACTIVITIES

### ACM ICPC CERC

2018

During my first year of college I represented Warsaw University of Technology in CERC in a team of 3 people. Together solved competitive programming problems in C++.