

# Richard CSAKY

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As a final year **PhD** candidate at **Oxford**, I have gained expertise in collecting, analyzing, and **decoding non-invasive brain** data using novel **deep learning** approaches. My background is in robotics and computer science, along with **3 years** of applied machine learning **experience** in **computer vision** and **language processing**. I have a particular interest in **speech** BCI applications and emerging **BCI technologies**.

## EDUCATION

### PhD in Machine Learning and Neuroscience

Secured \$100,000 studentship.

Presented research at 3 international conferences.

Authored 2 full papers on novel machine learning **methods** for **decoding brain** activity.

Designed reading and **inner speech** experiments, conducting 30 **EEG**, **MEG**, **MRI**, **OPM** sessions.

Wrote over 10,000 lines of code in Python for **data analysis**, **signal processing**, and **machine learning**.

Led 5-person team in a hackathon with a BCI idea.

University of Oxford 📍

2020 – December 2023 📅

### M.S. Erasmus Semester (with scholarship)

Courses: Bioinformatics, BCI, Neural Networks

KU Leuven (Belgium) 📍

2020 📅

### M.S. in Computer Science Engineering

Awarded the National Excellence Scholarship.

Attended **EEML** (machine learning summer school).

Presented research at 6 conferences and meetups.

Budapest University of Technology (Hungary) 📍

2018 – 2020 📅

### B.S. in Mechatronics Engineering

Implemented molecular circuit **simulation platform** in **C++**, winning 2nd place at university conference.

Budapest University of Technology (Hungary) 📍

2014 – 2018 📅

## SOFT SKILLS

- Cross-disciplinary
- Leadership
- Adaptable
- Problem-solving

## EXPERIENCE

### Scientific Consultant

📍 BCI Stealth Startup

📅 July 2022 – present

### Natural Language Processing Researcher

1. Led **dialog modelling** research, publishing a novel **data-filtering** method at **ACL**, and winning a national competition with a review of **150 papers**

2. Developed one of the **first Transformer-based chatbots**, with over 400 stars on GitHub

3. Created and published a new **dataset** at **EACL**

4. Developed online **GPT2 chatbot** used by 100s

5. Mentored students on NLP projects (**1, 2, 3, 4**)

6. Authored actively used **NLP Python packages** with 10-100 stars on GitHub (**1, 2, 3**)

📍 Budapest University of Technology (Hungary)

📅 February 2018 – October 2019

### Software Engineer

Built a **UI** for real-time manipulation of parking spots on **car camera** feed, and collected and **labelled 10,000 images**.

Adapted and **trained YOLO** for parking space **segmentation**, achieving results that led to the allocation of a dedicated team and additional funding for the project.

📍 **Bosch** (Hungary)

📅 July 2017 – August 2018

## TECHNICAL SKILLS

### Actively using

- EEG/MEG experiment design and execution
- Python, PyTorch
- Git
- LaTeX
- Matlab

### Studied and self-taught, used in projects

- Java/Android
- C/C++/C#
- OpenGL
- TensorFlow
- Processing
- Inventor, LabView, Ansys