Richard CSAKY

richard.csaky@psych.ox.ac.uk
ricsinaruto.github.io
github.com/ricsinaruto
scholar.google

I have obtained my **PhD** at **Oxford**, where I 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 4 international conferences.
Authored 2 publications on novel deep learning methods for modeling and decoding brain activity.
Designed reading and inner speech experiments, running 30+ EEG, MEG, MRI, OPM sessions.
Built a closed-loop EMG silent speech interface.
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 – 2023

M.S. in Computer Science Engineering
Attended courses (BCI, bioinformatics, neural networks) at KU Leuven (Belgium) for 1 semester.
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

TECHNICAL SKILLS

Actively using

- EEG/MEG experiment design and execution
- Signal processing
- Machine learning
- BCI decoding
- Python
- PyTorch
- Matlab
- Git
- LaTex

Studied and self-taught, used in projects

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

EXPERIENCE

Computational Neuroscientist
Developed machine learning methods for decoding multichannel electrophysiology data. Implemented and responsible for all aspects of ML infrastructure.
Sonera (Remote)
July 2023 – present (Consulting: Jul - Dec 2023)

Technical Specialist
1. BCI startup (April 2023 – present)
Provided guidance for a BCI prototype, focusing on ML algorithms for user experience and accuracy.
2. Chatbot startup (June 2020 – August 2020)
Various
2020 – 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)
Budapest University of Technology (Hungary)
February 2018 – October 2019

Software Engineer
Built a UI for real-time manipulation of parking spots on camera feed. Adapted YOLO for parking space segmentation, achieving results that led to the allocation of a dedicated team and funding.
Bosch (Hungary)
July 2017 – August 2018

SOFT SKILLS

- Leadership
- Adaptable
- Problem-solving
- Cross-functional
- Communicator (Podcast)