ESZTER BÁTHORY

CONTACTS

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LANGUAGES

- English – Professional
- Italian – Advanced
- Hungarian – Native
- Spanish — Beginner
- German — Beginner

SKILLS

Problem-solving,

Critical thinking,

Accuracy and Precision, both in a teamwork and independent work,

Time Management,

Reliability,

Diligent Working Time,

Version Control (SVN, git)

MATLAB,

C#,

Unity3D,

Python,

ML,

Time Series Database,

Arduino,

Data Science,

Open personality to acquire new competencies,

ABOUT ME

Biomedical Engineering 🫁

Neuroscience, Brain Research 🧠

Programming, Scripting 🖥️

Biochemistry 🧬

Personal Website:
https://4eszter4.github.io/Intro/indexCV.html

Home projects:
https://4eszter4.github.io/Intro/indexDigi.html

EDUCATION

Budapest University of Technology and Economics

BIOMEDICAL ENGINEER, M.Sc. with honours
Faculty of Electrical Engineering and Informatics
Sep 2019 – Jun 2021

BIOCHEMICAL ENGINEER, B.Sc. Healthcare specialisation
Faculty of Chemical Technology and Biotechnology
Sep 2015 – Jan 2019

Programming Certificates: Unity3D, Python, Machine-Learning

LinkedIn certificates: TensorFlow - NNs, Images, Deep Learning, Arduino, Business Analysis
Certificates: *https://4eszter4.github.io/Intro/Certificates/Programming.pdf*

ACHIEVEMENTS

Publication: Nature Methods, co-author,
Moculus: an immersive virtual reality system for mice incorporating stereo vision, *https://www.nature.com/articles/s41592-024-02554-6*

Scientific Student Conference II. Prize, Role of Vasoactive Intestinal Polypeptide Expressing Interneurons in Cortical Signal Processing
https://4eszter4.github.io/Intro/_downloads/6edcc3d37ab2072016858d4748d34b0b/TDK.pdf

Project and report on cochlear implants and hearing aids

PROFESSIONAL EXPERIENCES

- **Gold Standard Diagnostics -** *Current*
Application Engineer
ERP systems, Help desk.

- **Femtonics Ltd. / BrainVisionCenter**, *Feb 2020 – May 2024*
Bioengineer - device, and software development

‣ Device and software development (Unity3D) for vision and neuroscience research, as well as testing, optimising and documentation.
‣ Enhanced device functionality through testing, and communication with teammates from different backgrounds.
‣ Real-time GUI for more effective experiments and augmented user experience.
‣ Managing software-hardware integration for in vivo animal experiment tasks.
‣ Responsible for internal documentation (Sphinx - HTML) and providing training material to international clients.
‣ Advertisement and demonstration.
‣ Insight into basic PLC programming, robotics, database queries, and GUI design.

Initial role: **Research Scientist** in neuroscience

‣ Performing behavioural animal experiments and design protocols for cortical signal processing studies, extended with data analysis.
‣ Performing in vivo optogenetic manipulations, viral transfection with micropipette injections, mouse craniotomy surgeries, and active use of multi-photon microscopy (acoustic-optic 3D) in neurobiological research.
‣ Device specialist, presentation on poster sessions at conferences (OPTOGEN, IBRO, FENS), contributing to ongoing neuroscience investigations.

- **Gottsegen National Cardiovascular Center**, Hospital, *Oct – Dec 2021*
Instrument Engineer
‣ Project management, handle logistics, serve coordination, and technical documentation for medical equipment projects.
‣ Liaising with medical device distributors for acquisitions and contracts.

- **OFESZ Molecular Diagnostic Laboratory**, *Jun – Sep 2021*
Laboratory Assistant (self-employment)
‣ Conducting PCR diagnostics and handling samples for in-vitro diagnostics.
‣ Operated blood analysers and chemical automation systems.

OTHER EARLY CAREER & VOLUNTEERING

- **Department of Otorhinolaryngology, Head and Neck Surgery**, **Internship**
  Sep 2019, Semester project
‣ Project with cochlear implantation, and hearing aid devices, including functionality understanding.
‣ Observe implant operations, intra-operative measurements, facilitate the tuning of the signal processor for patients.

- **Sanofi, Chinoin Zrt., Development project manager intern,** *Jun – Sep 2019*

- **Hungarian Academy of Sciences, Research Center for Natural Sciences,**
Institute of Organic Chemistry, and Chemical Biology group,
Volunteer Researcher, *Sep 2017 – Dec 2018*
‣ Preparative work with DNA oligomers, and performed measurements with spectrophotometry, capillary electrophoresis. Data analysis.