Laszlo Treszkai

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EDUCATION

MSc: Artificial Intelligence   2017 – 2018
University of Edinburgh, United Kingdom   with distinction (83%)
Courses in ML, deep learning, decision making, probabilistic modelling and natural language processing.
Master's thesis: *Likelihood-based Planning with Loops*, supervised by Vaishak Belle, IJAR publication pending.

Self-taught mathematics   2016 – 2017
Linear algebra, theory of computation, mathematical logic (courses at Eötvös Loránd University, Budapest), *et al.*

BSc and **MSc**: Electrical Engineering (Embedded Information Systems)   2007 – 2013
Budapest University of Technology, Hungary   (MSc GPA: 4.4 of 5.0)

PROFESSIONAL EXPERIENCE

Sclable Business Solutions GmbH. *AI Research Engineer*   Nov 2018 – Mar 2019
 • Document analysis with OCR: developed a system to combine results from multiple sources.
 • Designed and implemented a Bayesian data modelling solution for a recommendation system.
 • Used *Python*, *Docker*, *Tornado*, *PostgreSQL*, *SQLAlchemy*, *Pandas*, *NumPy*, *unittest*, *OpenCV*.

TTControl GmbH. *Embedded Software Engineer*   Apr 2014 – Mar 2016
The flagship HY-TTC 500 product – an IEC 61508 SIL 2 certified ECU.
 • Developed software features in *C language* and *assembly*.
 • Created testing tools and test cases in *Python*.
 • Coordinated the *software testing*, led successful certification discussions with the TÜV.

Formula Student East, **Formula Student Hungary**. *Electrical Safety Leader*   Dec 2014 – Aug 2016
Organised the electrical aspects of the event, managed the work of 8 people before and during the event.

Robert Bosch Kft. *Test Software Developer Intern*   Aug 2010 – Dec 2010
Developed an automotive diagnostics software in *Python*, resulting in a fivefold decrease in test time.

PUBLICATIONS

A Correctness Result for Synthesizing Plans With Loops in Stochastic Domains   2019
First author of a paper on automated planning based on my dissertation. Submitted at IJAR; under revision.

treszkai.github.io   2018
Explanatory and exploratory blog posts about mathematics, AI, and ML.
Multilinear algebra tutorial solutions, *Proofs in mathematical logic*, *Evaluation of function calls in Haskell*

Kristálytiszta elektronika ("Crystal Clear Electronics")   2018
Chapter 16: The timer module
Co-author of a *book* aimed at high school students on embedded hardware and software design.

FURTHER PROJECTS

BEST: Bayesian Estimation Supersedes the t-test   Aug 2019
Bayesian estimation made simple: Python package to serve as a drop-in replacement of t-tests.
 • Fit t-distributions on one-dimensional data with *PyMC3*, and plot posteriors with Matplotlib.
 • Full documentation at best.readthedocs.io, generated with *Sphinx*.

Estimating the uncertainty of deep neural networks   Jan – May 2018
 • Experiment with different methods to improve calibration, such as deep ensembles or test-time dropout.

BME Formula Racing Team   2011 – 2013
Group Leader of Low Voltage Electronics (FREC-003 race car), Hardware+Firmware Engineer (FRC-005)
 • *Designed* the low voltage *system of 9 ECUs* and *30 sensors* in a Formula Student car.
 • *Lead a group of 7 students* (mechanical, hardware and firmware engineers).
 • Engineering Design 1st place, Energy Efficiency 1st place at the international FSH 2013.