

DAWID LASZUK

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Passionate about learning. Dedicated to constantly improve.

WORK EXPERIENCE

- Amazon* *Since June 2017* **Software developer engineer I**
Joined North America Retail Expansion (NARX) team. Due to the nature of the team I was involved in many projects including migrating petabyte size database into AWS Redshift and predicting attributes on billions of products using natural language processing (NLP) with Spark on AWS EMR distributed system.
- Evertz Microsystems* *Jan – Dec 2016* **Software developer**
Agile software development using Jira's project management and both SVN and Git version controls. Although the main responsibility was to program back-end in Java, work often involved scripting with Python and front-end development in JavaScript (jQuery), ActionScript 3 and XSL, as well as maintaining databases in Oracle or MariaDB.
- BrainTech* *2012–2013* **Intern, Data analyst**
Designing and implementing various algorithms for data analysis and visualisation. Being a part of a few projects, including an open source Brain-Computer Interface platform (OpenBCI) and a real-time data visualization tool (Svarog). Analysed data were mainly of physiological origin such as brain or muscles signals.
Reference: Prof. Piotr DURKA · www.braintech.pl
- Titanis* *2010–2012* **Python programmer**
Taking active part in designing and developing a framework for different projects held within the company. Implementing algorithms for data processing and maintaining correct data streamline within projects.
Reference: MATEUSZ KRUSZYŃSKI · www.titanis.pl
- University of Warsaw* *2009–2012* **Freelance programmer**
Implementing signal processing methods used in Brain-Computer Interface technology using Python and Matlab, and writing graphical user interfaces in Qt (C++). The work often required performing data collection experiments and creating scripts to automatise work all of which was on Linux. Close collaboration with the Department of Biomedical Physics at the University of Warsaw.
Reference: Prof. PIOTR DURKA
- Nencki Institute of Exp. Biology* *Jun – Sept 2010* **Intern, Signal processing**
The main task was to perform a statistical analysis on muscle signals. This required forming a processing pipeline with signal transformation, annotation of regions of interest and non-parametric statistical significance tests.

Contact details to referees and supervisors available upon request.

EDUCATION

<i>PhD in Cybernetics</i>	<p>2012 – Nov 2016* University of Reading</p> <p>School of Systems Engineering · Brain Embodiment Laboratory Thesis title: <i>KurSL: a model of coupled oscillators based on Kuramoto's coupling and Strum-Liouville theory</i></p> <p>Project introduces a mathematical model which explains a general system with mutually interacting elements with periodic states. The model is described in terms of coupled differential equations for which parameters are fit using Monte Carlo Markov Chain with data-driven priors.</p> <p>Supervised by Prof. SŁAWOMIR NASUTO & Dr. OSWALDO CADENAS. *Thesis submitted Nov 2016, defended Apr 2017, corrected Mar 2018.</p>
<i>MSc in Physics (pl: magister)</i>	<p>2011 – 2012 University of Warsaw</p> <p>Overall result: 4.88/5.00 (top 5%) · <i>Biomedical Specialisation</i> · Two years curriculum finished within one year Thesis title: <i>Analysis of experimental data for the hybrid BCI systems.</i> Supervised by Dr. RAFAŁ KUŚ.</p>
<i>BSc in Physics (pl: licencjat)</i>	<p>2008 – 2011 University of Warsaw</p> <p>Overall result: 4.76/5.00 (top 5%) Thesis title: <i>Implementation of P300 paradigm in OpenBCI platform.</i> Supervised by Prof. PIOTR J. DURKA.</p>

SKILLS

<i>Software Development</i>	<p>Languages: Python, Java, C/C++, JavaScript, MATLAB, Mathematica, SQL. Common modules: NumPy, SciPy, Matplotlib, scikit-learn, Spark, Hadoop, jQuery. Technology: AWS EMR, S3, Redshift/Postgres, Athena, SageMaker.</p>
<i>Data analysis</i>	<p>Natural language processing, Time-frequency analysis, IIR & FIR filters, data decomposition, components extraction, regression analysis, multilayer neural networks, naive Bayes, SVM, clustering & classifiers.</p>
<i>Mathematics</i>	<p>Mathematical modelling, differential equations, dynamical couplings, optimisation methods, functional analysis, Bayesian statistics, (Markov Chain) Monte Carlo simulations.</p>

AWARDS AND SCHOLARSHIPS

2012 – 2015	PhD studentship from the University of Reading.
2010/11	Polish Ministry of Science and Higher Education scholarship, which is a nation-wide scholarship based on overall academic achievements.
2010/11 2011/12	Structural Funds and Cohesion Fund scholarship titled "Physics — qualifying for education based economy". Granted to the best 20% students.

OTHER INFORMATION

<i>Personality</i>	Ambitious, keen on learning and highly motivated to present the best results. Likes to be surrounded by determined and creative people. Very easy to inflict curiosity. Constantly tinkering and trying to learn how everything works.
<i>Hobbies</i>	Learning, reading, travelling, creating music, playing instruments (any guitar and drums) and all physical activities.