

# Maciej Matraszek

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## Education

- 2016 – expected 2023 **University of Warsaw, PhD programme, Computer Science.**  
Pursuing PhD in Computer Science with focus on low-power sensor networks.
- 2014 – 2016 **University of Warsaw, Master's degree, Computer Science.**  
MSc summa cum laude in Computer Science. Thesis title: *Detecting Human Group Behavior with Wearable Sensors*.
- 2011 – 2014 **University of Warsaw, Bachelor's degree, Computer Science.**  
BSc summa cum laude in Computer Science. Project title: *Development of PouchDB as part of Facebook Open Academy*.
- 2008 – 2011 **Stanislaw Staszic High School No. 14, Warsaw.**  
Class with an extended mathematics syllabus (matex) – authored and carried out by researchers of the University of Warsaw. (25% of my class already got or will soon get a PhD.)

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## Research

- 2020 – present **ngSim: New Challenges in Simulation of Low-power Wireless Devices, Investigator, University of Warsaw.**  
The motivation behind the project is the fact that there are currently no suitable models for the dominant modern hardware architectures adopted in low-power wireless micro-devices. Grant no. 2019/33/B/ST6/00448 by National Science Centre (NCN). **Rust, C, Python, Low-power devices**
- 2020 – present **LITL – Labeling in the Loop. Development of an automatic and semi-automatic system for marking data in large data sets based on machine learning., Senior Data Scientist, QED Software.**  
Researching and developing an Active Learning system optimizing for experts and data constraints. Grant no. POIR.01.01.01-00-0213/19 operated by National Centre for Research and Development in Poland. **Python, Machine Learning**
- 2018 – 2020 **Sensei: A system supporting the development of player skills, DNN consultant, QED Software.**  
Developing Deep Neural Network models on game log data in order to create representations suitable for various downstream task, analogously to NLP. Grant no. POIR.01.02.00-00-0184/17, operated by National Centre for Research and Development in Poland. **Python, Machine Learning**
- 2018 – 2019 **Development of a self-learning system of automatic modelling of personalized real-time game-play variants in horror games, Investigator.**  
Designing experimental procedures, design and development of artificial intelligence methods predicting the emotional state of horror game players from multimodal sensors. Grant no. POIR.01.02.00-00-0089/16, operated by National Centre for Research and Development in Poland. **Affective Computing, Python, Machine Learning**
- 2014 – 2016 **SocSenSys: Social feedback systems based on body area networks, Investigator, University of Warsaw.**  
Exploring capabilities of electronic sociometric badges to quantify a group behaviour. (Master's thesis) Gant no. DEC-2012/05/D/ST6/03582 by National Science Centre (NCN). **C, Low-power devices, Python, Data Science**
- 2015 – 2016 **Threat Identification Modelling or a thing about that how to look into the fire fighter's head, Investigator, University of Warsaw.**  
Reproduction of the classic Seibel's work on discrimination time for a 1,023 alternative task. Grant no. 124/UD/SKILLS/2013 by Foundation for Polish Science.

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## Publications

- 2022 **Learning multimodal entity representations and their ensembles, with applications in a data-driven advisory framework for video game players, Information Sciences, Volume 617, December 2022, Pages 193-210, DOI: 10.1016/j.ins.2022.10.097.**  
Andrzej Janusz, Daniel Kałuża, Maciej Matraszek, Łukasz Grad, Maciej Świechowski, Dominik Ślęzak,
- 2021 **1KT: a low-cost 1000-node low-power wireless IoT testbed, MSWiM '21: Proceedings of the 24th International ACM Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems, DOI: 10.1145/3479239.3485708.**  
Mateusz Banaszek, Wojciech Dubiel, Jacek Łysiak, Maciej Dębski, Maciej Kisiel, Dawid Łazarczyk, Ewa Głogowska, Przemysław Gumienny, Cezary Siłuszzyk, Piotr Ciołkosz, Agnieszka Paszkowska, Inga Rüb, Maciej Matraszek, Szymon Acedański, Przemysław Horban, Konrad Iwanicki

- 2021 **Predicting Victories in Video Games - IEEE BigData 2021 Cup Report**, *Big Data: 2021 IEEE International Conference on Big Data*, DOI 10.1109/BigData52589.2021.9671650.  
Maciej Matraszek, Andrzej Janusz, Maciej Świechowski, Dominik Ślęzak
- 2020 **Human Nature: The Subject and the Headache of IoT-Based Sociometric Studies**, *EWSN 2020: Proceedings of the 2020 International Conference on Embedded Wireless Systems and Networks, FAILSAFE Workshop.*, ACM Library 10.5555/3400306.3400358.  
Maciej Matraszek, Inga Rüb, Piotr Konorski, Dominik Batorski, and Konrad Iwanicki
- 2019 **30 Sensors to Mars: Toward Distributed Support Systems for Astronauts in Space Habitats**, *ICDCS 2019: Proceedings of the 39th IEEE International Conference on Distributed Computing Systems*, DOI: 10.1109/ICDCS.2019.00169.  
Inga Rüb, Maciej Matraszek, Piotr Konorski, Małgorzata Perycz, Aleksander Waśniowski, Dominik Batorski and Konrad Iwanicki

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## Professional Experience

- 7/2018 – present **Senior Data Scientist**, *QED Software*, Warsaw, Poland, part-time.  
Developing a machine learning library for state of the art data labelling system based on active learning. Previously R&D Affective Computing project on gamers. **Python, Machine Learning**
- 6/2017 – 9/2017 **Software Engineering Intern**, *Google*, Mountain View, US.  
Worked on a high performance, distributed query database with real-time data ingestion.  
**C++**
- 7/2015 – 9/2015 **Software Engineering Intern**, *Google*, Zurich, Switzerland.  
Feature project on TrueView ads on YouTube. Worked on various layers of the system with multiple teams around the globe.  
**C++, Python, Web.**
- 7/2014 – 9/2014 **Kernel Developer Intern**, *Samsung R&D Institute Poland*, Warsaw, Poland.  
Working on power management in the **Linux kernel** for mobile devices. Created a framework for testing V4L2 drivers. **C, Open Source.**

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## Honors and awards

- 2013 – 2015 **Dean's Scholarship for best students (twice)**, *University of Warsaw*.
- 2011 – 2014 **Ministry-sponsored field of study scholarship**, *University of Warsaw*.
- 2010, 2011 **Bronze medal of the 18<sup>th</sup> and finalist of the 17<sup>th</sup> Polish Olympiad in Informatics.**

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## Didactics

- 2014 – 2021 **Artificial Intelligence classes for Cognitive Science students**, *University of Warsaw*.
- 2011 – 2012 **Extracurricular Algorithms Class Teacher**, *High School No. 14*, Warsaw.  
All of five regular attendants became laureates and finalists of the Polish Olympiad in Informatics.
- 2010 – 2013 **Camps Tutor – preparation to Olympiad in Informatics**, *High School No. 14*, Warsaw.  
Organizing workshops, lectures and algorithmic contests for talented high school students.

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## Area of Scientific Interests

Tiny Machine Learning, mHealth (mental), Affective Computing, Cognitive Science  
Low-power sensor networks, efficient power usage by microcontrollers

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