

# Piotr Tarasiewicz

[tarasiewicz.pl](mailto:tarasiewicz.pl) | [taras.piotr@gmail.com](mailto:taras.piotr@gmail.com) | [linkedin.com/in/taraspiotr](https://www.linkedin.com/in/taraspiotr) | [github.com/taraspiotr](https://github.com/taraspiotr)

## EXPERIENCE

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### Senior Software Engineer - Artificial Intelligence

November 2021 - present

*NVIDIA Corporation*

*Warsaw, Poland*

- Develop reference deep learning solutions using NVIDIA's existing models, libraries, tools and infrastructure.
- Analyze and improve performance of GPU implementations.

### Research Intern (Reinforcement Learning)

December 2020 – September 2021

*Statistical Machine Learning Group @ UCL*

*London, United Kingdom*

- Working on data driven robot grasping under the supervision of Marc Deisenroth (DeepMind Chair of ML and AI @ UCL) and Yasemin Bekiroglu (Senior Research Fellow @ UCL, Assistant Professor @ Chalmers).
- Designing data efficient deep reinforcement learning algorithms to solve grasping tasks.

### Data Scientist

March 2020 – Sep. 2020

*AdColony Inc.*

*Warsaw, Poland*

- Tech stack: Python, PyTorch, BigQuery, SQL, Airflow.
- Build machine learning models for users CTR and IPM prediction for one of the largest ad networks.
- Design and prototype probabilistic model for market landscape prediction in RTB auctions.
- Built a reinforcement learning model to optimize the trade off between exploitation and exploration of the new supply and demand.

### Data Scientist

April 2018 – March 2020

*deepsense.ai (CodiLime Group)*

*Warsaw, Poland*

- Tech stack: Python, PyTorch, SQL, Tensorflow (Tensorpack), scikit-learn, lightgbm.
- Technical leader of a project that developed model predicting over 30% of out of stock situations for one of the biggest e-commerce company in Poland.
- Member of a team that created RL Agent (A3C algorithm) for stock trading.
- Created an algorithm for matching mobile advertisers with publishers (reach of more than 1.5 billion users worldwide).
- Created Deep Learning model for annotating damaged products on the images.
- Co-author of a winning solution for Mapping Challenge that achieved 0.95 mAP score on segmenting satellite images.

### Software Engineer Intern

June 2016 – March 2017

*Robert Bosch GmbH*

*Warsaw, Poland*

- Development of web and windows applications in .NET using NX (Siemens PLM Software) API to automate engineering work.
- I've reduced running time of an algorithm to remove sensitive design information from 3D models by 80% (in C++).
- Started a project for AgroBot - an autonomous robot to monitor greenhouses (using Python and ROS).

## EDUCATION

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### University College London

London, United Kingdom

*MSc Machine Learning*

*Sep. 2020 – Sep. 2021*

- Graduated with Distinction, GPA 90/100.
- Thesis title: Data-driven robot grasping. Supervisors: Marc Deisenroth and Yasemin Bekiroglu.
- Courses in Deep Learning, Reinforcement Learning (taught by Google DeepMind), Kernel Methods (co-taught by Gatsby Neuroscience Unit), Probabilistic and Unsupervised Learning (taught by Gatsby Neuroscience Unit), Approximate Inference (taught by Gatsby Neuroscience Unit), Supervised Learning, Natural Language Processing (co-taught by Facebook AI Research).

### Warsaw University of Technology

Warsaw, Poland

*Bachelor of Science in Robotics*

*Oct. 2014 – March 2018*

- Graduated with summa cum laude distinction, (Cumulative Grade 4,84/5).
- Three-time winner of the Chancellor's Scholarship for Academic Excellence.
- Thesis title: Applications of artificial intelligence for games with imperfect information.

## PUBLICATIONS

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- Tarasiewicz et al. (2021). Adversarial Conversational Shaping for Intelligent Agents. *35th Conference on Neural Information Processing Systems (NeurIPS 2021), Efficient Natural Language and Speech Processing Workshop*.
- Mohanty et al. (2020). Deep Learning for Understanding Satellite Imagery: An Experimental Survey. *Frontiers in Artificial Intelligence*. 3. 10.3389/frai.2020.534696.

## OTHER PROJECTS

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### Auxiliary Tasks in Reinforcement Learning

June 2020 – June 2021

- Try to understand when it's better to know than to learn to know (use additional signal as an input or as an auxiliary tasks) across reinforcement learning tasks.
- Introduce a hybrid approach with progressive nets (additional signal both as an input and output).
- Use Soft Actor Criting and PPO algorithms as baselines.
- Conducted in cooperation with RL researchers from University of Warsaw and Jagiellonian University in Poland under the supervision of Piotr Miłoś (Associate Professor @ Institute of Mathematics, Polish Academy of Sciences) and Błażej Osiński (Staff Research Scientist @ Lyft).

### Universcan

Nov. 2015 – June 2018

- Back-end Developer and Webmaster and the Warsaw University of Technology coordinator in a social project that reached tens of thousands of young people by creating a free mobile app for sharing academic events in Warsaw. Working with Facebook Graph API to automatically index and categorize all academic events in Warsaw. See: <https://universcan.pl>

## TECHNICAL SKILLS

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**Languages:** Python, SQL, Julia, C/C++

**Frameworks:** PyTorch, Tensorflow, JAX

**Developer Tools:** Git, Docker, Jenkins, Google Cloud Platform, Linux

**Libraries:** pandas, NumPy, Matplotlib, xgboost, scikit-learn, lightgbm, SciPy