

## Work Experience

### Swammerdam Insitute for Life Sciences

Amsterdam, Netherlands

RESEARCH INTERN

Jan. 2023 - PRESENT

- Currently working on investigating the application of **multi-omics integration** methods for the the discovery of **plant-microbiome** interaction pathways in nightshades. Data simulation using **Genome Scale Metabolic <odels** and flux sampling.

### Bayer Crop Science

Bergschenhoek, Netherlands

GENOMIC PREDICTION INTERN

Jun. 2022 - Dec. 2022

- Created a reproducible **quantitative genetics** pipeline to evaluate the impact of marker density on prediction accuracy.
- Devised **experiments** to test our hypotheses and implemented a highly parallel experimental pipeline in R.
- Synthesized the project into an **academic research** thesis for my MSc.
- Gained knowledge of working in a diverse **agricultural R&D** environment and some of the challenges involved. Worked to aid an international team of experienced agricultural researchers and engineers.

### Vrije Universiteit Amsterdam

Amsterdam, Netherlands

RESEARCH ASSISTANT

Nov. 2021 - Aug. 2022

- Applied my ML knowledge to converting structural prediction models and using them for **epitope prediction**
- Worked with existing models and tweaked them to leverage multi-task learning for data-scarce scenarios

### Toptal

Freelance, Remote

FREELANCE DATA SCIENTIST

Sep. 2020 - Jul. 2021

- Worked with Python and **BigQuery** to ingest retail analytics data
- Implemented programmatic **pipelines with Google Cloud** services which ingested BQ data and fed it into downstream APIs for tracking and marketing campaigns
- Wrote complex **SQL** queries for sanitizing and processing incoming retail data (Shopify, Stripe, etc)
- Light Google Cloud service management and deployment

### Romanian Institute of Science and Technology

Cluj-Napoca, Romania

RESEARCH ASSISTANT

Aug. 2018 - Jul. 2020

- Improved my ability to perform focused research and collaborate with a research team
- Kept myself up-to-date with SOTA methods by following publications from major conferences and/or arxiv
- Implemented proposed experiments and contributed with my own suggestions to existing research projects
- Gained experience by mainly working with RL methods, **generative** models and **unsupervised** learning methods for graphs
- Gained some experience with **project management** by acting as a Scrum master for the team

### Romanian Institute of Science and Technology

Cluj-Napoca, Romania

MACHINE LEARNING RESEARCH INTERN

Jul. 2017 - Oct. 2017

- Helped with existing deep learning projects in Python with **Tensorflow**
- Gained some proficiency in using data science tools such as **Jupyter**, **pandas**, **numpy**, **seaborn**, etc.
- Improved ability to perform research through **academic reading** and experiments
- Acquired presentational skills by showcasing experimental results
- Gained theoretical knowledge of basic **machine learning** concepts

### Rodeapps

Cluj-Napoca, Romania

BACKEND WEB DEVELOPER

Jul. 2016 - Nov. 2016

- Learned **REST** principles by designing and documenting pragmatic restful APIs
- Gained familiarity with **Django Rest Framework** by implementing and unit-testing said APIs
- Worked with **agile** tools such JIRA
- Wrote production-quality and **test-driven** Python code
- Deployed restful services to **Heroku** and learned about PaaS web apps

## Education

### Vrije Universiteit Amsterdam & Universiteit van Amsterdam

Amsterdam, Netherlands

MASTERS IN BIOINFORMATICS AND SYSTEMS BIOLOGY

2021 -- PRESENT

- Gained solid **bioinformatics** and **systems biology** skillset including knowledge of sequence and structural data
- Learned basic **molecular biology** concepts through conversion courses
- Worked on project involving omics- analysis of **cyanobacteria** model organisms

### Babeş-Bolyai University

Cluj-Napoca, Romania

BSc IN COMPUTER SCIENCE

2015 -- 2018

- Covered a curriculum of computer science and mathematics courses
- Wrote my BSc thesis titled *Deep Learning with DOM Features for Web Content Extraction*

## Skills & Abilities

### LANGUAGES

<b>Romanian</b>	Native	
<b>English</b>	Fluent	Proficient User, Cambridge CAE certificate -- Grade A -- C2 Level
<b>German</b>	Beginner	Basic understanding of the spoken and written language -- A2 Level

### PROFESSIONAL SKILLS

	Excellent command of the language gained as a hobbyist programmer, employee and open-source contributor
<b>Python</b>	<ul style="list-style-type: none"><li>• Good control of the language and ability to write clean idiomatic code</li><li>• Familiarity with writing REST web services in <b>DRF</b></li><li>• Good knowledge of data science tools and frameworks such as <b>numpy</b>, <b>pandas</b> and <b>seaborn/matplotlib</b></li><li>• Comfortable with several ML toolkits such as <b>scikit</b>, <b>Tensorflow</b>, <b>Keras</b> and good knowledge of <b>pytorch</b></li><li>• Some familiarity with <b>web-crawling</b> with Scrapy and the challenges involved</li></ul>
<b>R</b>	<p>Good command of the language, gained through academic and professional work.</p> <ul style="list-style-type: none"><li>• Familiarity with the <b>tidyverse</b> ecosystem. Can both use and write idiomatic "tidy" libraries.</li><li>• Some knowledge of the <b>omics</b>- processing ecosystem. Have used <b>DESeq2</b>, <b>limma</b> and ability to perform functional analysis with <b>clusterProfiler</b> and similar suites</li><li>• Worked with <b>quantitative genetics</b> tools, mainly LMM-centered frameworks.</li></ul>
<b>Research / ML / Biology</b>	<p>Skills gained mainly through my work as a research assistant, working on my BSc thesis and during my MSc</p> <ul style="list-style-type: none"><li>• Intermediate ability to create diverse documents in <b>Latex</b> such as this CV or academic writing</li><li>• Can survey literature of interest and synthesize relevant information</li><li>• Some experience with machine learning <b>experimental design</b> to provide statistically-sound results</li><li>• Ability to implement novel models/algorithms from formal specifications</li><li>• Basic knowledge of <b>molecular biology</b> gained through conversion courses during my MSc</li><li>• Bioinformatics and systems biology skillset including understanding and manipulation of <b>sequence</b> and <b>structural</b> data. Basic understanding of networks kinetics <b>modelling</b></li></ul>
<b>Linux</b>	<p>Experienced user (7+ years of experience). Have used it both on personal workstations and servers</p> <ul style="list-style-type: none"><li>• Very familiar with the <b>GNU Linux</b> ecosystem.</li><li>• Good command of scripting with <b>Python</b> and <b>bash</b> and intermediate <b>system administration</b> skills.</li></ul>
<b>C / C++</b>	<p>Intermediate to good knowledge of the languages, predominantly C++</p> <ul style="list-style-type: none"><li>• Knowledgeable of the latest C++ standards(11/14) and good coding practices.</li></ul>
<b>Web dev.</b>	<p>Intermediate knowledge of front-end programming and web design</p> <ul style="list-style-type: none"><li>• Ability to develop frontend apps using <b>react</b> and some knowledge of mobile programming with <b>react-native</b></li></ul>
<b>Dev misc.</b>	<p>Good supporting programming skills gained through professional work and hobby coding</p> <ul style="list-style-type: none"><li>• Good command of the <b>git</b> workflow gained through using it for both personal and professional projects.</li><li>• Familiarity with <b>Agile</b> project management methodologies.</li><li>• Good understanding of the <b>OOP</b> paradigm and ability to use design patterns. Gained through my experience with <b>C++</b>, <b>Java</b>, <b>C#</b> and <b>Python</b>.</li></ul>

## Extracurricular

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### Transylvanian Machine Learning Summer School

Cluj-Napoca, Romania

VOLUNTEER

Jul. 2018

- Volunteer from the Romanian Institute of Science and Technology. Helped with the logistics of the event
- Participated in lectures, keynotes and practical courses. Gained basic knowledge of a broad variety of topics in ML, from computer vision to RL

### Intrinsically Motivated Open-Ended Learning Summer School

Frankfurt, Germany

PARTICIPANT

Jul. 2019

- Learned about state-of-the-art methods in the field of intrinsically-motivated learning and curiosity-driven learning
- Strengthened my understanding of **reinforcement learning**

## Training

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### Coursera Online - Stanford University

Coursera Online

ANDREW NG'S MACHINE LEARNING COURSE

Feb. 2017

- Basic knowledge of **machine learning** concepts such as regression, classification and clustering and implementation with MATLAB and Python

### HP Software

Cluj-Napoca, Romania

LINUX TRAINING WORKSHOP

Nov. 2015 -- Dec. 2015

- Linux system use and basic administration and **scripting**

## Publications

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|------|---|------------------|
| 2018 | <b>Learning Web Content Extraction with DOM Features</b> , 2018 IEEE 14th International Conference on Intelligent Computer Communication and Processing (ICCP)  | Conference Paper |
| 2020 | <b>Performance Evaluation of Graph Convolutional Networks with Siamese Training for Few-Shot Classification of Nodes</b> , ICML 2020 Workshops on Bridge Between Perception and Reasoning: Graph Neural Networks & Beyond | Workshop Paper   |