

# ANDRA-DENIS IONESCU



<https://andraionescu.github.io>



<https://www.linkedin.com/in/andra-ionescu-phd/>

## PROFESSIONAL EXPERIENCE

### KTH Royal Institute of Technology, Sweden

May 2025 – Present

Postdoctoral Researcher

- Researching and designing a digital platform for multi-modal clinical data harmonisation for secondary reuse through unified graph-based representations, aiming to transform clinical decision-making and information retrieval.

### Delft University of Technology, The Netherlands

February 2020 – May 2024

Doctoral Researcher

- Assessed data management issues over 4 years, engineered methods that streamlined processes for data scientists and increased data handling efficiency by 25%.
- Demonstrated sound judgement in selecting research directions by identifying gaps in state-of-the-art research and proposing 3 novel research methods, leading to 7 published research papers at A and A\* conferences.
- Researched and designed an open-source feature discovery tool and a tabular data augmentation service, enhancing dataset quality and machine learning model accuracy, which advanced data processing by 15%.
- Led 2 qualitative research projects by conducting 24 semi-structured interviews of 45-60 minutes each, gathering and analysing large datasets, and deriving statistics to assess the needs and requirements for a data science pipeline.
- Produced 10+ high-quality research outputs and presentations by quickly mastering tools for data analysis (Atlasti), and design tools for mock-ups (Figma), for posters and other visualisations (Adobe InDesign), which elevated project communication.
- Collaborated with 35 experts from diverse domains to address dataset discovery and augmentation challenges, co-developing services that enhanced data usage and discovery within a data marketplace platform.
- Mentored 9 bachelor's and 2 master's students through thesis research and development, providing technical guidance in data analysis, feature engineering and ML model development.

Python (pandas, numpy, scikit-learn, matplotlib, seaborn) / Neo4j, MySQL, DuckDB / Docker, Atlas.ti / Adobe (Illustrator, InDesign), PowerPoint, Figma

### ING Nederland, The Netherlands

October 2019 – January 2020

Research Intern

- Led a research initiative to improve dataset discovery in the financial enterprise setting, analysed large-scale production data to identify trends, leading to data-driven recommendations that increased search and discovery times by 15% across 2 teams.
- Developed and deployed state-of-the-art schema matching algorithms using 3 ML models and 3 research studies, improving data integration and increasing matching accuracy by 33% in the enterprise platform.
- Collaborated with 2 cross-functional teams to integrate machine learning insights into product development, aligning with business goals.

Python (pandas, numpy, scikit-learn) / Relational Tabular Data

### Maistering BV, The Netherlands

October 2018 – September 2019

Software Engineer

- Partnered with the UI/UX team to design and iterate wireframes for a web application, integrating research insights and stakeholder feedback. This collaboration improved usability and functionality, resulting in a more intuitive user experience.
- Collaborated with engineers to translate wireframes into a functional UI, ensuring accurate implementation and backend integration. Enhanced design refinements and technical solutions, delivering the interface on schedule and meeting design goals.
- Mentored 5 junior developers with tailored guidance and clear explanations. Fostered a feedback-rich environment, accelerating learning and boosting team productivity and project outcomes.

Python (Flask) / TypeScript / Angular 7 / d3 / vis.js

**Onior Group BV, The Netherlands***September 2017 – September 2018*

Java Developer

- Optimized AI deployment pipelines using OCR and machine learning for data extraction, improving system accuracy by 35% and reducing processing time by 20%. Integrated design, test, and analysis, stakeholder feedback, and expert insights to ensure reliability and efficiency.
- Identified the need for improved quality control, led the adoption of automated code checks in a 10-member R&D team and boosted performance metrics by reducing technical debt by 25%, thus improving code quality.

Java EE8 / Oracle SQL

**Computaris, Romania***January 2017 – August 2017*

Junior Software Engineer

- Collaborated on a software development project for proximity beacon data collection, building a full-stack application with a dashboard for data visualisation. Additionally, developed a DNS solution with CRUD methods, ensuring alignment with client needs and industry standards.

Java EE8 / Spring / MySQL / Jira

**Rinf Tech, Romania***July 2015 – December 2016*

Junior Developer

- Collaborated within an Agile framework as part of a 11-member development team, developed REST services to improve a Customer Relationship Management (CRM) tool in a production environment, wrote comprehensive JUnit tests to ensure code quality, updated and deployed Solr cores for optimised search functionality. Leveraged diverse team insights and methodologies to adapt development strategies, incorporating feedback and iterative improvements into project workflows.

Java EE8 / AngularJS 1 / MySQL / MongoDB / Jira

**EDUCATION****Delft University of Technology, The Netherlands***February 2020 – January 2025*

Doctor of Philosophy (PhD), Computer Science

- Thesis: *Feature Discovery for Data-Centric AI*

**Delft University of Technology, The Netherlands***September 2017 – February 2020*

Master's Degree in Computer Science (MSc), Data Science Track

- Thesis: *Reproducing State-of-the-Art Schema Matching Algorithms* – 8.5 / 10 GPA

**University "Politehnica" of Bucharest, Romania***October 2013 – July 2017*

Bachelor's Degree in Computer Science (BSc)

- Thesis (in Romanian): *Front-end Infrastructure for Smart City IoT projects* – 9.5 / 10 GPA

**RESEARCH SERVICE****PC Member** – *HILDA 2025, TaDa 2025, VLDB Demo 2025, DOLAP 2025, WWW Resource Track 2025, TaDa 2024***Tutorial & Workshop Chair** – *DEBS 2024***Co-organiser & Workshop Chair** – *DBML 2023***Co-organiser** – *eXplainable AI Summer School 2022, Alice & Eve 2022***Publicity Chair** – *DBML 2022, DBDBD 2021***DISSEMINATION & MEDIA****February 2025:** Contributed to a *blog post* on RIPE Labs with tips on querying data with DuckDB.**November 2024:** Wrote a *blog post* on tips and tricks with DuckDB.**April 2023:** Talked about my work on data marketplace platforms in *Disseminate Podcast*.**December 2021:** Opened the session *Discovery and Pricing Data in Data Marketplaces: Challenges and Opportunities* at European Big Data Value Forum, where I *presented* Topio Marketplace.