Victor Pădurean

Ph.D. Student at
Max Planck Institute
for Software Systems

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https://vicondrus.github.io/

Interests

- Artificial Intelligence
- Generative Models
- Large Language Models
- Deep Learning
- AI-driven Education
- Educational Content Generation

Technical Skills

Programming: Python, JavaScript, Java, C, SQL

ML Frameworks: PyTorch, Tf/Keras HF Transformers

DS Frameworks: Pandas, Numpy

SE Frameworks: Django, React

Misc.: Git, Docker, Linux, LaTeX

Soft Skills

- Highly Self-motivated
- Collaborative Team Player
- Excellent Communicator
- Efficient Time Manager
- Creative Problem-solver
- Skilled Presenter
- Strong Academic Writer

Languages

Romanian: Native
English: Proficient (C2)
French: Intermediate (B1)
German: Beginner (A1/A2)

Education

Postgraduate Studies

2021.09 – ongoing

Ph.D. in Computer Science — **MPI-SWS/UdS, Germany**

Supervisor: Dr. Adish Singla

CS@max planck | Machine Teaching

Undergraduate Study

2017.10 – 2021.07

B.Sc. in Computer Science — **UTCN, Romania**

Project Title: Thermal Flexibility Estimation for Server-Heaters

Advisor: Dr. Marcel Antal

Valedictorian

Work Experience

2020.10 – 2022.11

Data Scientist — **Linnify, Romania**

Working as a Data Scientist on an early project. Responsibilities include researching and developing approaches for correlating workplace data with employee stress levels.

2020.07 – 2020.08

Summer Intern — **Linnify, Romania**

Working as a Backend Developer. Responsibilities include developing and deploying an internal tool for project managing and socializing under the scrum framework. Employed technologies used include Python, Django, PostgreSQL Bitbucket Pipelines, Docker, Google Cloud Services.

2019.07 – 2019.08

Summer Intern — **Montran Corporation, Romania**

Working as a Full-stack Developer. Responsibilities include developing a backing web application. Employed technologies include Java, Java Spring, MySQL, MongoDB Maven.

Selected Publications

[1] **Victor-Alexandru Pădurean** and Adish Singla. Benchmarking Generative Models on Computational Thinking Tests in Elementary Visual Programming. CoRR, abs/2406.09891, 2024. *Note: under review*

[2] **Victor-Alexandru Pădurean**, Georgios Tzannetos, and Adish Singla. Neural Task Synthesis for Visual Programming. In Transactions on Machine Learning Research (TMLR), 2024.

[3] Tung Phung, **Victor-Alexandru Pădurean**, Anjali Singh, Christopher Brooks, José Cambronero, Sumit Gulwani, Adish Singla, and Gustavo Soares. Automating Human Tutor-Style Programming Feedback: Leveraging GPT-4 Tutor Model for Hint Generation and GPT-3.5 Student Model for Hint Validation. In Proceedings of the Learning Analytics and Knowledge Conference (LAK), 2024.

[4] Tung Phung, **Victor-Alexandru Pădurean**, José Cambronero, Sumit Gulwani, Tobias Kohn, Rupak Majumdar, Adish Singla, and Gustavo Soares. Generative AI for Programming Education: Benchmarking ChatGPT, GPT-4, and Human Tutors. In Proceedings of the Conference on International Computing Education Research (ICER) - Volume 2, 2023.