

BERNARDA PETEK

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EDUCATION

University of Ljubljana, Faculty of Computer and Information Science

2023-2027 (*expected*)

PhD: Uncertainty Visualization

Supervisor: Prof. dr. Erik Štrumbelj

University of Ljubljana, Faculty of Mathematics and Physics

2020-2023

M.S. in Mathematics & Computer Science

Thesis: Optimizing Click-Through Rate in Online Advertising Using Cost-Sensitive Learning (grade 10/10)

Supervisors: Prof. dr. Zoran Bosnić and dr. Martin Jakomin (Teads)

University of Groningen, Faculty of Science and Engineering

2019

Erasmus+ Mathematics Student Exchange

University of Maribor, Faculty of Natural Sciences and Mathematics

2016-2020

B.S. in Mathematics

RESEARCH AND INDUSTRY EXPERIENCE

University of Ljubljana, Faculty of Computer and Information Science

2023–Present

Researcher and Teaching Assistant, Laboratory for Data Science

Ljubljana, Slovenia

- Currently conducting research on how people perceive and interpret uncertainty visualizations through experimental design, user studies, and statistical analysis, while also being a Teaching Assistant for Machine Learning for Data Science I in the Data Science master's programme.
- Co-developed a general method for visualizing uncertainty in statistical graphics; the resulting paper was accepted by *IEEE Transactions on Visualization and Computer Graphics*, and I maintain its open-source Python implementation, *bootplot*.
- Presented *Position: Explainable AI Cannot Advance Without Better User Studies* at ICML 2025 in Vancouver and preliminary results from the uncertainty visualization project at the WiML @ ICML 2025 Poster Session.

SRC, d.o.o.

2021–2023

Software Engineer

Ljubljana, Slovenia

- Developed and maintained Java-based full-stack applications involving backend services, APIs, databases, and frontend components.
- Investigated software defects, implemented new functionality, and worked with engineers and stakeholders throughout the development process.

University of Maribor, Faculty of Arts

2020

Web Developer

Maribor, Slovenia

- Contributed to the development of the Hotel Slovenščina web application, an educational platform supporting Slovene language learning and cultural exchange.

LEADERSHIP

PhD Student Representative, EUTOPIA Student Council

2025–Present

Represent PhD students from the University of Ljubljana and collaborate with students from ten European universities on policy recommendations and student initiatives.

ADDITIONAL COURSES

Data Science Summer School, Teads

August 2023

Predictive modeling and conversion prediction.

Backend Summer School, Teads

August 2022

Java, Docker, microservices, and scalable backend systems.

PUBLICATIONS

- [1] Bernarda Petek, David Nabergoj, and Erik Štrumbelj. A general approach to visualizing uncertainty in statistical graphics. *IEEE Transactions on Visualization and Computer Graphics*, 2026.
- [2] Matej Pičulin, Bernarda Petek, Irena Ograjšek, and Erik Štrumbelj. Position: Explainable AI Cannot Advance Without Better User Studies. In *Forty-second International Conference on Machine Learning Position Paper Track*, 2025. URL: <https://openreview.net/forum?id=A15mEX6eHF>.