Vasil Dakov

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EDUCATION

TU Delft

- MSc Data Science and Artificial Intelligence — Sep 2024 - Jun 2026
- MSc Management of Technology *(interrupted)* — Sep 2025 - Jun 2026
- BSc Computer Science and Engineering, graduated *Cum Laude* — Sep 2021 - Jun 2024

TU Graz

- Exchange Semester: Informatics — Sep 2023 - Feb 2024

EXPERIENCE

Uber | ***Software Engineer*** | Developer Platform — Apr 2026 – Present

- Part of the Devpod team, responsible for Uber's cloud-based remote development environment, supporting engineers with a reliable development and agentic workflow environment. Operating a massive Kubernetes cluster with tens of thousands of concurrent users across multiple regions.

TU Delft | ***Research Software Developer*** | "Practical Case Studies for AI" — Jun 2025 - Mar 2026

- Developing materials for a repository of (to-be) open source case studies of use of AI in industry. The repository is to-be used by educators for facilitating the teaching of AI in their courses. Gave a lecture on the usage of AI for detecting contrails from remote sensing data.

TU Delft | ***Teaching Assistant*** — Feb 2025 – Apr 2026

- Managed weekly laboratory sessions, addressed student inquiries, graded coursework, prepared course materials. Supervised student internships at industry partners (NS, ProRail).
- Courses taught: *Computer Vision*, *Alternative Learning Strategies*, *Computational Intelligence*, *Advanced Data Science for Civil Engineers*, *Introduction to AI*, *Algorithms for NP-Hard Problems*.

Uber | ***Software Engineering Intern*** | Checkout Platform team — Sep 2024 - Mar 2025

- Dealt with large-scale problems concerning payment traffic at Uber. Completed a large-scale migration from one payment eligibility verification system to another in a volatile environment.

GATE Institute | ***Research Intern*** — Jul 2023 - Oct 2023; Feb 2024 - Sep 2024

- Researched automatic tree detection from remote sensing data in Sofia. Used a mixture of deep learning, traditional image processing, and sampling algorithms. Ensured collaboration with TU Delft on a deep learning project for change detection.

ExaSail | ***Software Engineering Intern*** — Apr 2023 - Jun 2023

- Led a team of five software developers working full-time with ExaSail to create an application assisting sailing team management through data analysis.
- Created a web application that takes sailboat racing data, processes it, and generates custom visual reports for coach analysis.

TECHNICAL SKILLS

Languages & Web

- Java & SpringBoot
- Python
- WebDev: Java- & TypeScript
- Go, C, C++, x86-64 Assembly

AI & Computer Vision

- Deep & Machine Learning, PyTorch
- Bayesian Machine Learning, AutoML
- Computer Vision & OpenCV
- Statistical Analysis & A/B Testing

Systems & Observability

- Linux, Bash, Git
- Docker & Kubernetes, Bazel, Terraform
- Postgres, MySQL, SQL
- Prometheus, Grafana, Loki

SCIENTIFIC WORK

Prior Learning Through Transformers. Link — June 2026

- Master's thesis in Data Science and Artificial Intelligence at TU Delft. Proposed a novel deep learning architecture for scalable, data-driven prior hyperparameter tuning in Bayesian machine learning (*prior learning*).

CoClusterPFN: Amortized Posterior Similarity for Tabular Bayesian Clustering. Link — Oct 2026

- Submitted to ICLR 2027 (under double-blind review). Second author (co-authors left anonymous per conference policy).
- Introduced CoClusterPFN, a Prior-data Fitted Network (PFN) for tabular Bayesian clustering that predicts pairwise posterior co-clustering probabilities in a single forward pass, matching MCMC accuracy orders of magnitude faster.

Urban Tree Detection from Remote Sensing Data Based on DeepForest Model. Link — May 2024

- Submitted and accepted as part of the 8th International Conference on Smart Data and Smart Cities (SDSC2024). Won the best paper award in the "Smart Digital Planning Tools" category.

Like squinting your eyes: The impact of different fusion modules on change detection with deep learning. — June 2024
Link

- Shared bachelor thesis between GATE, Sofia University "St. Kliment Ohridski" and TU Delft.

PROJECTS

Board Game Detection with Computer Vision and Deep Learning | Blogpost Repository Mar 2025 - Apr 2025

- Created a pipeline where a user captures an image of an arranged "Settlers of Catan" board, outputting an automatically recognized internal game state with a GUI. Based on custom YOLO models trained with synthetic data.

License Plate Recognition, TU Delft | Repository Nov 2022 - Jan 2023

- Implemented a localization and recognition pipeline that parses license plates from video input.
- Applied image processing and machine learning techniques to translate video frame data to text output.

LANGUAGES

- English (fluent), Bulgarian (native), German (advanced), Romanian (intermediate)