Daniel Pavlov

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Education

Technical University of Munich Munich, Germany

Bachelor of Science in Computer Science, Minor in Medicine *Oct. 2022 – Present*

- Bachelor Thesis: Enhancing the reliability of Brain-Computer-Interfaces using uncertainty quantification in deep learning

Experience

Junior Software Engineer Mar. 2025 – Present

Check24 Vergleichsportal GmbH *Munich, Germany*

- Owned the end-to-end creation of a greenfield security microservice, engineering its core with a custom, non-blocking ClamAV client built on Project Reactor to achieve high-throughput, low-latency
- Orchestrated the full deployment lifecycle by building multi-stage CI/CD pipelines (Jenkins, Docker, Ingress) to deploy to Kubernetes in multiple environments, including publishing OpenAPI specifications for easy adoption.
- Consistently delivered on the product road-map by shipping various features and enhancements

Working Student Software Engineering Jan. 2024 – Feb. 2025

Check24 Vergleichsportal GmbH *Munich, Germany*

- Migrated four core, revenue-generating services to Spring Boot 3 and Java 21, achieving zero downtime and unlocking key security and performance upgrades.
- Reduced latency for critical application queries by 90% by designing and implementing a custom, multi-layered caching framework
- Consistently delivered on the product road-map by shipping various features and enhancements

Course Instructor - Intro to Programming Lab Oct. 2024 – Mar. 2015

Technical University of Munich *Munich, Germany*

- Created lecture material and (exam) exercises, briefed tutors and helped manage the interdisciplinary introductory programming course with 1,400+ students.
- Conducted weekly 3-hour tutorial sessions, helping students understand key programming concepts (i.e. control flow, OOP, I/O, networking, threads, synchronization) through hands-on exercises

Tutor - Functional Programming and Verification Oct. 2024 – Mar. 2025

Technical University of Munich *Munich, Germany*

- Conducted weekly 1.5-hour tutorial sessions, helping students understand functional programming in OCaml and common formal verification concepts to verify the semantics of programs through hands-on exercises

Tutor - Intro to Programming Lab Oct. 2024 – Mar. 2025

Technical University of Munich *Munich, Germany*

- Conducted weekly 3-hour tutorial sessions, helping students understand key programming concepts (i.e. control flow, OOP, I/O, networking, threads, synchronization) through hands-on exercises

Publications

EEG-Based Brain-Computer Interface for a Tetraplegic Individual Using Motor Imagery for Cybathlon 2024

11th International BCI Meeting, Banff, Canada

Co-Author on scientific abstract and poster, DOI: 10.3217/978-3-99161-050-2-000

Competitions & Hackathons

N/avi | *Next.js, GenAI, React, Typescript, HTML/CSS*

- Winning project of CDTM Hacks 2025, presented at the opening of the OpenAI Germany office
- Built a fully functioning, ai-driven prototype that allows patients to scan their medical documents and turn it into structured data for any application
- Exploring the possibility of turning this prototype into a real product with the help of mentors and VCs

Panopticon | *Rust, actix-web, React, Typescript, HTML/CSS*

- Developed a full-stack web application in 36h during the hackathon HackaTUM
- Implemented a reactive dashboard that allows dispatchers to view the position of robo-taxis

Non-Profit

Board Member Apr. 2025 – Present
neuroTUM e.V. *Munich, Germany*

- Leading a cohort of interdisciplinary, non-profit research and development student organizations (60 members) specializing in neuro-technology, brain-inspired computing, robotics, electronics and machine learning, bio-informatics and hardware-related fields. The managed student associations include neuroTUM, OpenHardware and Biomatrix.

Student Researcher May 2024 – Present
neuroTUM e.V. *Munich, Germany*

- Contributed to the research and development of a non-invasive Brain-Computer-Interface showcased on the world stage during the CYBATHLON2024
- Developed an observability application that displayed the current state of the real-time machine learning pipeline to the pilot
- Led a taskforce of interdisciplinary students focused on the internal operations of the association

Technical Skills

Languages: Java, Python, Rust, SQL, JavaScript, HTML/CSS, Typescript
Frameworks & Technologies: React, JUnit, actix-web, Spring, Testcontainers, Project Reactor, Rest, OpenAPI
Developer Tools: Git, Docker, Jenkins, OpenAPI, GitHub Actions, uv, gradle, ruff, just