



# Serhii Yahdzhiev

As a Software Engineer, I contribute across the full software development lifecycle, from requirements analysis and architecture design to implementation, testing, and deployment.

I place strong emphasis on reproducibility, maintainability, and transparency of results. My primary interests lie in developing data-driven applications that leverage modern algorithms to automate and digitalize complex processes.

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## Skills

**Frontend Development:** HTML • CSS/SCSS • JavaScript/TypeScript • Angular • Vue/Nuxt • React/Next • Ionic • Electron • Figma

**Backend Development:** Python • Flask/FastAPI • Node.js • Express.js • SQLAlchemy/PyScopg2 • PostgreSQL/SQLite • MongoDB • OAuth2 • OpenID Connect

**System Engineering / HPC:** GNU/Linux • C • Rust (Basic) • Bash/Zsh • IPC • Slurm

**DevOps & Processes:** Git • Fossil • Docker • GitLab/GitHub (CI) • Nginx • Digital Ocean • Oracle Cloud • AWS • ClickUp

**QA & Testing:** Pytest • Playwright • Jest • Vitest • Postman

## Soft Skills

- Quickly transfer knowledge and experience to new domains and technologies
- Prefer open, transparent, and honest communication
- Focus on solving problems rather than personal profiling
- High responsiveness and adaptability in agile project environments
- Actively share knowledge and experience with clients and team members
- Understand customer challenges and proactively propose solution approaches

## Professional Experience

Jan 2026 – present

**Fullstack Software Engineer**, PERFACCT GmbH – Potsdam, Germany

- Fullstack Web Development
- System Development / HPC
- Quality Assurance
- DevOps / SysOps

Mar 2023 – Dec 2025

**Working Student Fullstack Software Engineer**, PERFACCT GmbH – Potsdam, Germany

- Fullstack Web Development
- System Development / HPC
- Quality Assurance
- DevOps / SysOps

Mar 2021 – Mar 2023      **Junior Fullstack Software Engineer**, Periodix, Inc. – USA

- Fullstack Web Development
- Data Science
- Machine Learning
- DevOps / SysOps

May 2020 – Mar 2021      **Sales Department Representative**, Periodix, Inc. – USA

- Lead generation processes
- Client communication
- Statistics management using internal company tools

Jan 2020 – May 2020      **Showband Musician**, P&O – Australia

- Production shows, dance sets, guest artist performances
- Cruise ship crew duties (drills, trainings)

Apr 2019 – Sept 2019      **Showband Musician**, Seven Seas Productions – Belgium

- Production shows, dance sets, guest artist performances
- Cruise ship crew duties (drills, trainings)

June 2018 – Sept 2018      **Showband Musician**, Phoenix Reisen GmbH – Germany

- Production shows, dance sets, guest artist performances
- Cruise ship crew duties (drills, trainings)

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## Education

Oct 2022 – Nov 2025      **GISMA University of Applied Sciences**, Bachelor in Software Engineering – Potsdam, Germany

Sept 2012 – July 2016      **State College of Arts and Culture**, Junior Specialist in Performance Arts (Drums and Percussion) – Odessa, Ukraine

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## Projects

June 2025 – Dec 2025

GFZ Potsdam, Helmholtz Association

### Further Development of the S3 Storage Frontend Data Organizer (Open Source)

- Maintenance and management of GitLab issues and tickets
- Design of the Single Page Application (SPA) architecture
- Migration from Nuxt 2 to Nuxt 3
- Setup and development of unit, Nuxt, and UI component tests
- Implementation of end-to-end tests using Playwright
- Configuration of linting, type-checking, and formatting workflows
- Extension and optimization of CI/CD pipelines
- Revision and update of project documentation
- Extension of the existing S3 mocking setup for test environments
- Implementation of STS credential flows for secure S3 access
- Development of new features using Vuetify
- Implementation of user experience improvements

**Tools:** Python, TypeScript, JavaScript, AWS SDK, OpenID Connect, Nuxt 3, Vue 3, Vitest, Playwright, GitLab CI, Vuetify

Nov 2024 – Sept 2025

GFZ Potsdam

### MVP SPA for S3-based Datalake Implementation (Open Source)

- Maintenance and management of GitLab tickets
- Design of the Single Page Application (SPA) architecture
- UI development
- Development of unit, Nuxt, and UI component tests
- Implementation of SSO using OAuth2 / OpenID Connect identity providers
- Use of Vitest for automated unit and component testing
- Development of CI/CD pipelines
- Development of new features using Vuetify

**Tools:** TypeScript, Nuxt 3, Vuetify, Docker, Docker Compose, GitLab CI, Keycloak, S3 Storage (MinIO), Vitest, OpenID Connect, STAC

Mar 2023 – present

Perfacct GmbH, Potsdam

### Development of the EMA Framework (Open Source)

- Extension and improvement of the framework's core APIs
- Implementation of a dynamic loading mechanism for framework plugins
- Design and development of CLI utilities and supporting tools
- Development of core framework plugins using NVML, MQTT, and RAPL (powercap)
- Extension and maintenance of the build system (CMake)
- Implementation and extension of unit tests for core framework plugins
- Development of a Docker image set for the core framework and utilities

**Tools:** C, CMake, Make, Shell/Bash, NVML, MQTT/Mosquitto, Linux powercap, Docker

July 2024 – present

Perfacct GmbH, Potsdam

### Development of the RTV Framework (Open Source)

- Design of the overall architecture of the tool using OOP principles
- Implementation of core interfaces and classes in Python
- Design and implementation of a basic set of framework entities
- Integration of Sphinx to combine user documentation with developer documentation generated from source code

**Tools:** Python, Sphinx, rpy2, Pandas, NumPy

Oct 2024 – present  
Perfacct GmbH, Potsdam

### **Development of the EPS (EMA Plugin for Slurm) (Open Source)**

- Integration of energy measurements for cluster jobs using EMA and the Slurm Plugins API
- Evaluation, design, and implementation of IPC mechanisms (forking, cgroups, semaphores)
- Methodological source code analysis due to gaps in official documentation
- Integration of PostgreSQL as the EPS database for storing energy consumption data
- Integration and configuration of CMake as the build system

**Tools:** C, CMake, Make, Shell/Bash, Slurm

Oct 2024 – present  
Perfacct GmbH, Potsdam

### **Development of the EPS Services Ecosystem (Open Source)**

- Design and development of a dashboard SPA for cluster users and administrators using React
- Design and development of the backend service layer for data processing and access control using Python, Flask, and SQLAlchemy
- Design and development of a complementary CLI toolset for EPS

**Tools:** Python, TypeScript/JavaScript, PostgreSQL, React, Flask, SQLAlchemy, Docker

Mar 2021 – Mar 2023  
Periodix Inc., Dnipro

### **CRM-like Dashboard for B2B Clients**

- Design and implementation of the SPA using React
- Design and implementation of internal libraries for time-based data batching
- Implementation of interactive data visualizations using ReCharts.js
- Integration with backend API services for data retrieval
- Implementation of client-side data validation using zod

**Tools:** TypeScript, React, SCSS, zod, ReCharts.js, Vite, Vitest

Mar 2021 – Mar 2023  
Periodix Inc., Dnipro

### **Set of Chrome Browser Extensions for Automation and Web Scraping**

- Design and implementation of abstract communication protocols between browser extensions
- Design and implementation of internal libraries for emulating user actions in Chrome
- Development and integration of controller/coordinator backend API services
- Implementation of complex deployment and scaling pipelines using Proxmox and shell scripting

**Tools:** TypeScript/JavaScript, Chrome Extensions API, Proxmox, Shell/Bash

Mar 2021 – Mar 2023  
Periodix Inc., Dnipro

### **Set of NLP and Advanced Text Search Backend Services**

- Development of backend services using Python, Flask, and MongoDB
- Development of backend services using TypeScript, Node.js, and Express.js
- Implementation of BM25-based text search using Node.js
- Implementation of NLP pipelines and features using Python and spaCy
- Design, implementation, and maintenance of CI/CD pipelines

**Tools:** TypeScript, Node.js, Express.js, Python, spaCy, Flask, MongoDB, Docker, PM2, Digital Ocean, Oracle Cloud, GitLab CI

Mar 2021 – Mar 2023  
Periodix Inc., Dnipro

### **Main Stateless Frontend for the Periodix Platform**

- Implementation of UI components and features using React, SCSS, and Ant Design
- Integration of asynchronous state management using TanStack Query and the React Context API

**Tools:** TypeScript/JavaScript, React, SCSS, Ant Design, React (TanStack) Query

Mar 2021 – Mar 2023  
Periodix Inc., Dnipro

### **Classification Models Management Service**

- Overall architectural design of the service
- Implementation of continuous training and fine-tuning pipelines for classification models using Scikit-Learn
- Integration with backend APIs for training data retrieval
- Implementation of data preprocessing pipelines
- Design and implementation of RESTful API endpoints for classification
- Design and implementation of classification model storage and versioning using MongoDB
- Continuous and automated deployment using Docker and Oracle Cloud

**Tools:** Python, FastAPI, Scikit-Learn, Docker, MongoDB, Oracle Cloud

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## **Publications**

2025

### **On the Usability and Energy Efficiency of High-Level Synthesis for FPGA-based Network-Attached Accelerators**

Steffen Christgau, Dylan Everingham, Marco De Lucia, Max Lubke, Danny Puhon, Niklas Schelten, Bettina Schnor, Hannes Signer, Johannes Spazier, Benno Stabernack, Fritjof Steinert, Serhii Yahdzhiev