



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/Psycopg2 • 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 <ul style="list-style-type: none"> • Fullstack Web Development • Data Science • Machine Learning • DevOps / SysOps
May 2020 – Mar 2021	Sales Department Representative , Periodix, Inc. – USA <ul style="list-style-type: none"> • Lead generation processes • Client communication • Statistics management using internal company tools
Jan 2020 – May 2020	Showband Musician , P&O – Australia <ul style="list-style-type: none"> • Production shows, dance sets, guest artist performances • Cruise ship crew duties (drills, trainings)
Apr 2019 – Sept 2019	Showband Musician , Seven Seas Productions – Belgium <ul style="list-style-type: none"> • Production shows, dance sets, guest artist performances • Cruise ship crew duties (drills, trainings)
June 2018 – Sept 2018	Showband Musician , Phoenix Reisen GmbH – Germany <ul style="list-style-type: none"> • 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

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 Perfact GmbH, Potsdam	Development of the EPS (EMA Plugin for Slurm) (Open Source) <ul style="list-style-type: none">• 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 Perfact GmbH, Potsdam	Development of the EPS Services Ecosystem (Open Source) <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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

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 Puhan, Niklas Schelten, Bettina Schnor, Hannes Signer, Johannes Spazier, Benno Stabernack, Fritjof Steinert, Serhii Yahdzhiev