Christina Ertural

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QuantumChemist

Née Christina Zitlau, 30 January 1992 in Zavety Ilyicha, Russia
Nationality: German

PROFILE

Software Developer with scientific background

I am a (scientific) software developer with extensive experience in building and maintaining complex software workflows in C++ and Python. Currently I am also learning JavaScript/TypeScript and HTML. My expertise spans algorithm design, data processing, high-performance computing, and creating user-facing tools. I bring strong problem-solving skills from academia and the ability to adapt quickly to new technologies.

PROFESSIONAL EXPERIENCE

2022 – 2025 **Postdoctoral Researcher (Software Development Focus)**
BAM Federal Institute for Materials Research and Testing, Berlin

- Designed and developed Python workflow software to automate large-scale data analysis based om MongoDB database management.
- Created tools integrating machine learning models for material simulations.
- Collaborated in interdisciplinary teams, translating scientific needs into robust code.
- Applied modern software engineering practices (version control Git/GitHub, testing, documentation).

2017 – 2022 **Software Developer / Doctoral thesis (Dr. rer. nat.)**
RWTH Aachen University

- Led C++ development for LOBSTER software implementations (electronic structure analysis), version control Apache Subversion SVN.
- Conducted computational research using VASP, Quantum ESPRESSO, ABINIT.
- Supervised and trained students in coding and data analysis.

EDUCATION

2015 – 2017 **Master of Science, Chemistry**
RWTH Aachen University

2011 – 2015 **Bachelor of Science, Chemistry**
RWTH Aachen University

TECHNICAL SKILLS

Programming: C++, Python, JavaScript/TypeScript, HTML, Git, Linux, Bash scripting

Frameworks/Tools: MongoDB, PyTorch, TensorFlow, Node.js, Electron, Docker, HPC environments

Other: Agile collaboration, workshop organization, mentoring

LANGUAGES

German (native), English (fluent), French (intermediate)