

Christian Skaftø Beck Clausen

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Summary

Software Engineer (PhD) with 10+ years of experience delivering software for energy systems, robotics, enterprise and the public sector. Specialized in building testing platforms to validate critical business logic in realistic environments. Currently architecting a cloud-native simulation platform for agent-based energy systems. Technical leader, mentor, and clear communicator with proven interdisciplinary collaboration across industry and research. Hands-on with backend and platform engineering in Java/Python/C#, CI/CD & containers (GitLab, Docker), event-driven systems (MQTT/NATS), and data/observability (PostgreSQL/MongoDB, InfluxDB, Grafana) on Windows, Linux, and macOS.

Professional Experience

Platform Architect / Assistant Professor **Nov. 2025 – Present**
SDU Center for Energy Informatics, Odense, Denmark

- Architecting and implementing an innovative software-as-a-service platform for agent-based energy systems, supporting industry and research partners to run scalable simulations, test control strategies, and validate critical business logic.
- Established software design patterns and development best practices for an agent-based simulation framework used by an interdisciplinary research and development engineering team.

PostDoc and PhD Fellow **Sep. 2020 – Oct. 2025**
SDU Center for Energy Informatics, Odense Denmark

- Developed test platforms using software-in-the-loop, co-simulation, and continuous integration to validate critical software and infrastructure while reducing test feedback cycles from weeks to minutes.
- Modernized a legacy Java multi-objective optimization framework with a more modular, testable design, reducing the codebase by 71%, increased test coverage from 3% to 70%, and thereby simplifying long-term maintenance.
- Worked with industry partners and interdisciplinary teams to define requirements and deliver software for multi-objective optimization and validation workflows.
- Designed and taught software architecture and object-oriented programming courses, mentored engineers and communicated complex technical concepts clearly.
- Produced technical writing (papers, docs, videos) documenting system designs and contributed to open-source software. Regularly presented these deliverables to international engineering and stakeholder audiences.

Previous Industry Experience (Full-time, Part-time, and Contract) **2010–2020**
Dania Software A/S • Universal Robots A/S • University of Southern Denmark • Strategirummet.dk

- Developed software solutions across C#, VB.NET, Java, Python, and SQL for robotics, enterprise, Danish ministries and municipal applications.
- Implemented features and resolved defects in a Java-based UI for collaborative robots, and automated documentation workflows integrated into CI/CD pipelines.
- Implemented CI/CD pipelines, Dockerized development workflows, and migrated teams from SVN to a self-hosted GitLab environment.
- Created SQL-based KPI dashboards and automation tools supporting agile development processes and operational reporting.
- Delivered servicedesk and helpdesk support for major enterprise clients (Vestas, Rambøll, TDC, COOP, LIDL, Sitecore), resolving issues across backend systems and maintaining on-premises servers, VMs, and networking infrastructure to ensure reliable operation.

Education

PhD in Software Engineering (Energy Informatics), University of Southern Denmark **2021 – 2025**

Master of Science (**MSc**) and Bachelor of Science (**BSc**) in **Software Engineering**, University of Southern Denmark **2016 – 2021**

Core Skills and Technologies

- **Professional Strengths:** Technical leadership, mentoring, interdisciplinary collaboration, modernization of legacy systems, clear communication of complex engineering concepts.
- **Architecture:** Distributed systems, cyber-physical systems, event-driven architecture, modular, maintainable and testable software design.
- **Platform Engineering:** Agent-based systems, (co-)simulation platforms, software-in-the-loop testing platforms.
- **DevOps & Infrastructure:** GitLab CI/CD, Docker, automation pipelines using infrastructure-as-code principles, containerized development workflows, Cisco CCNA level computer networking.
- **Programming Languages:** Java, Python, C#, JavaScript / TypeScript, VB.NET.
- **Tools and Technologies:** Spring, Maven, JUnit, MQTT, NATS.io, InfluxDB, MongoDB, PostgreSQL, Grafana, GitLab, VMware, Linux/Windows/macOS.