Dan Sebastian **Thrane**

TEAM LEADER · SOFTWARE ARCHITECT

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Summary

Experienced team leader and software developer specializing in cloud services and high-performance computing. Proven track record in leading complex projects, through multiple phases of a product lifecycle. Experienced in designing and implementing cloud platforms and enhancing user experiences for large user bases. Skilled in many aspects of the product development, including: DevOps, frontend, backend, data migration and system integration.

Work Experience

Job positions held for longer periods of time are split for readability purposes.

SDU eScience Center - Improving software performance and user experience

Odense, Denmark

SPECIAL CONSULTANT/TEAM LEADER (CLOUD SERVICES) — *January 2023 - present*

- Continued to lead a team developing an interactive platform for high-performance computing.
- Designed and implemented a complex data migration on a cloud platform, ensuring zero downtime.
- Managed the redesign of a cloud platform's user interface for over 10,000 users, improving user satisfaction.
- Rewrote critical components of the frontend and backend, resulting in massive performance increases and reduced load times.

SDU eScience Center - Work on national projects

Odense, Denmark

SPECIAL CONSULTANT/TEAM LEADER (CLOUD SERVICES) — *January 2021 - December 2022*

- Directed a major refactoring of the UCloud platform, while supporting a fivefold user increase from 800 to 5000 users.
- Played a key role in the massive expansion effort of the UCloud platform, part of the DeiC Integration Portal project.
- Led the integration of Slurm into UCloud, collaborating with national partners to enhance platform capabilities.

SDU eScience Center - Product launch and growing leadership role

Odense, Denmark

SPECIAL CONSULTANT/TEAM LEADER (CLOUD SERVICES) — *Summer 2019 - December 2020*

- Title changed to Team Leader.
- Played a key role in the successful production launch of UCloud, expanding its user base and functionality.
- Developed a system supporting interactive applications like RStudio and Visual Studio Code, broadening the platform's usability.
- Participated in ISO27001 certification. Leading necessary changes for compliance within my team. Certification achieved in January 2020.
- Participated in international collaborations, centered around scientific cloud computing in Europe (EOSC-Nordic).
- Contributed to national HPC project proposals, securing awards for the eScience Center.

SDU eScience Center - Greenfield project development and design

Odense, Denmark

SCIENTIFIC SOFTWARE DESIGNER (UNTIL AUGUST 2018)/SPECIAL CONSULTANT (FROM AUGUST 2018) — *August 2017 - Summer 2019*

- Joined as the first software developer, leading the development of a national science application store, now known as UCloud.
- Built foundational components for UCloud's backend and frontend.
- Promoted to special consultant in August 2018.
- Helped design and build a web-based user interface for the platform (TypeScript, React).
- DevOps and system administration work to configure the initial production environment (Docker, Kubernetes, NGINX, Ceph).

SDU Mærsk Mc-Kinney Møller Instituttet

Odense, Denmark

SOFTWARE DEVELOPER (PART-TIME, STUDENT HELPER) — *February 2015 - July 2017*

- Helped co-designed an interactive learning platform used in several courses over a period of at least 8 years.
- Full-stack development as a solo developer using Grails, Polymer and SQL. Interacting with various external APIs, such as YouTube and SSO solutions.

Education

University of Southern Denmark - IMADA

Odense, Denmark

MASTER'S DEGREE IN COMPUTER SCIENCE — *September 2015 - July 2017*

- Thesis project: Building a Package Manager for Jolie (Grade: 12).

University of Southern Denmark - IMADA

Odense, Denmark

BACHELOR'S DEGREE IN COMPUTER SCIENCE — *September 2012 - July 2015*

- Thesis project: Compiler Construction (Grade: 12, awarded "Compiler of the Year 2015").

Notable personal projects

Web-server from scratch
- Original version written in Kotlin, later completely rewritten in C.
- Asynchronous HTTP/1.1 server with optional WebSocket upgrade written from scratch using a small set of dependencies (libc and mbedTLS).
- Supporting large parts of RFC 9110 (including TLS upgrade) and RFC 6455.

Skills

Programming languages	Kotlin, Java, Groovy, C, C++, Go, SQL, PHP, JavaScript, TypeScript, HTML, CSS, Python, Bash
Libraries and frameworks	kotlinx.coroutines, Ktor, Prometheus, React, Styled components, Redux, Hibernate, Angular, Polymer, Spring, Grails, JUnit, Spock, JSON/YAML parsing libraries (several)
Build tools	Gradle, Maven, NPM, Yarn, Make
Web technologies	HTTP (1, 2, 3), WebSockets, gRPC, DOM, Web components, WebAssembly, Security features (e.g. CORS, CSP, ...), Canvas, JWT, SAML, OpenId Connect, OAuth
Databases	PostgreSQL, SQLite, H2, MySQL, Redis, Kafka, ElasticSearch
Tools and technologies	Docker, Docker Compose, Apptainer (formerly Singularity), Kubernetes, Rancher, K3s, Slurm, Helm, Ansible, Jenkins, Git, Grafana, Kibana, Tomcat, NGINX, Envoy, Caddy
Linux Distributions	CentOS (and variants), Ubuntu, Alpine
Security and compliance	CIS control and benchmarks, GDPR regulations, ISO27001 compliance, knowledgeable in web security best practices