

Mikkel Hansen

Computer Scientist · Backend / Cloud Developer

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PROFILE

Computer scientist and backend/cloud developer. MSc in Computer Science and five years of research in formal verification — model checking and quantitative analysis under uncertainty — followed by six years building and operating production software at scale: national mobile platforms and healthcare systems at Netcompany, and backend microservices for a connected consumer-hardware product at Saphe, after a deliberate move from consultancy into in-house product engineering. Equally at home in DevOps: C#/.NET microservices, Docker, Kubernetes (GKE), gRPC, and CI/CD.

EXPERIENCE

Software Developer — Backend / Cloud · Saphe A/S

Sep 2024 – Present · Aalborg

- Build and maintain features across a C#/.NET microservice backend for Saphe's subscription traffic-alarm service — 500,000+ paying subscribers and 1M+ users — in a small (4–7-person) backend/cloud team.
- Own the integrations to external payment and finance systems end-to-end — Frisbii for subscription billing and Unicontra for ERP — from design through operation.
- Services are containerized with Docker and run on Google Kubernetes Engine (GKE), communicating over gRPC.
- Cover DevOps tasks alongside feature work: deployments, monitoring, CI/CD pipelines (Azure DevOps), and cluster configuration.

IT Consultant → Senior Architect → Senior Specialist · Netcompany

Sep 2020 – Aug 2024 · Aalborg

- Delivered software for the Danish public and healthcare sector in an agile, client-facing environment; progressed from consultant to Senior Architect and Senior Specialist over four years.
- Contributed to national pandemic-response mobile apps — the Danish Coronapas (3M+ downloads) and the Danish and Norwegian contact-tracing apps Smittestop / Smittestopp (2.5M+ users; 500,000+ infection registrations) — in large, distributed teams across Aalborg and Netcompany's Ho Chi Minh City offices.
- Spearheaded the integration to the European Medicines Agency's EU medicines database on behalf of the Danish Medicines Agency — drove the implementation largely single-handedly, against a substantial regulatory compliance framework, coordinating in regular working sessions with counterpart teams from other member states building the same integration.
- For the Danish Medicines Agency (4–7-person team): maintained and developed their Microsoft Dynamics CRM platform.

Researcher / Research Assistant · Aalborg University, Dept. of Computer Science

2015 – 2020 · Aalborg

- Research in formal verification — weighted transition systems and model checking under uncertainty — resulting in peer-reviewed publications (below).
- Taught and supervised on the Computer Science and Software Engineering programmes (incl. object-oriented programming and syntax & semantics); presented at international conferences.

EDUCATION

MSc in Computer Science — Aalborg University

2013–2015

Thesis: A Complete Approximation Theory for Weighted Transition Systems

BSc in Computer Science — Aalborg University

2010–2013

Project: On Error Propagation and Power Consumption Using Trilateration in WSNs

TECHNICAL SKILLS

Languages	C# / .NET, Python, Java, C/C++, SQL, Bash
Cloud & DevOps	Docker, Kubernetes (GKE), Azure DevOps (CI/CD), Git, Linux
Data	MSSQL, PostgreSQL, MongoDB
Other	gRPC, microservice architecture, system integration, formal methods & model checking

SELECTED PUBLICATIONS

Google Scholar: 48 citations · h-index 4

- Bacci, G., Hansen, M., Larsen, K.G. Model Checking Constrained Markov Reward Models with Uncertainties. QEST 2019.
- Hansen, M., Larsen, K.G., Mardare, R., Pedersen, M.R. Reasoning about Bounds in Weighted Transition Systems. Logical Methods in Computer Science, 2018.
- Bacci, G., Hansen, M., Larsen, K.G. On the Verification of Weighted Kripke Structures under Uncertainty. QEST 2018.
- Hansen, M., Larsen, K.G., Mardare, R., Pedersen, M.R., Xue, B. A Complete Approximation Theory for Weighted Transition Systems. SETTA 2016.
- Christoffersen, P., Hansen, M., Mariegaard, A., Ringsmose, J.T., Larsen, K.G. Parametric Verification of Weighted Systems. SynCoP 2015.

LANGUAGES

Danish (native) · English (fluent)