Benjamin **Starostka Jakobsen**

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starostka.io | MSc

Dynamic software engineer and sports enthusiast with a passion for data-driven solutions and artificial intelligence.

Education

Technical University of Denmark (DTU) *Kongens Lyngby, DK*
Master of Science in Engineering, HCAI (Human-Centered Artificial Intelligence) *2021 - 2024*

- MSc. Thesis: Efficient Large Language Models, Looking into the Democratization of AI through low-overhead Tensor backends and Distributed Machine Learning Algorithms
- Specialization: Data Science and Big Data

Technical University of Denmark (DTU) *Kongens Lyngby, DK*
Bachelor of Science in Engineering, CSE (Computer Science Engineering) *2018 - 2021*

- BSc. Thesis: Implementation of Advanced Deep Learning Methods to Improve Information Retrieval for Rare Disease Diagnosis

Professional Experience

Kompasbank *Vedbæk, DK*
Artificial Intelligence Engineer (student worker) *2021 - 2024*

- Machine learning in finance, data pipelines, and cloud orchestration
- Analyze large datasets with SQL and Python, communicate with visualizations
- Advocate for AI adoption within the organization
- Ensure best practices for data management and security
- Develop predictive models to drive decision-making

AWS CloudFormation SageMaker Typescript S3 Glue Lambda Python Nix Containerization

The Polytechnic Foundation at DTU *DTU Campus*
Volunteer App Developer (student worker) *2019 - 2022*

- Helped build a mobile application to help keep student at DTU informed about important events
- Worked with phone emulators (iOS and Android)
- Used FireBase to help drive a simple CMS

React Native TypeScript Node.js GraphQL Flutter Dart

KMD *Ballerup, DK*
Software Developer (student worker) *2019 - 2022*

- Helped maintain and develop a platform for public dental clinics built on a .NET stack
- Managed claims securely between public entities and the private IT mainframes at KMD

.NET C# SQL CSS HTML AJAX jQuery OAuth JWT

Cobham Satcom *Kongens Lyngby, DK*
Testing the Aviator-S Inmarsat L-Band Solution (student worker) *Summer 2017*

- Performed testing and scripting of avionics software for safety-critical operations, including connectivity and air traffic control systems
- Developed numerous scripts to automate testing procedures, enhancing efficiency and accuracy
- The Aviator-S system operates onboard some of the world's most popular aircrafts, including the Boeing 737 and Airbus A320

Projects & Associations

My public GitHub is currently sparse. Most of my work is done in a (large and somewhat chaotic) private monorepo that I call the `workspace`, often referred to as `shokunin`, inspired by the Japanese word for "craftsman". But here I'll highlight a few of my more notable projects.

End-to-end Training of Retrieval-Augmented LMs (REALM, RAG) *Pioneer Centre for AI, CPH Botanical Garden*
VOD-LM (Contributor) *2021-2023*

- Gained expertise in Generative Tasks for QA, Language Modeling, and Chat
- Set up portable ephemeral development environments with a focus on reproducibility
- Automated HPC workflows for distributed training
- GitHub Repo: https://github.com/VodLM/vod

PyTorch CUDA LLM HuggingFace Transformers DataLoaders Fabric

System Configuration (A Shokunin Project) *Kongens Lyngby, DK*
NixOS & Home-Manager Dotfiles *Present*

- Leveraged Nix to manage and provision host configurations across personal devices, cloud servers, and virtual machines
- Named each host after spaceships from Dead Space, such as Kellion, Ishimura, and others

NixOS SOPS GNU Privacy Guard Direnv Home Manager

starostka.io (A Shokunin Project)   *Kongens Lyngby, DK*
Phoenix-based Website and Blog   *Present*

- Developing a personal portfolio/sandbox website.. Overkill? Maybe. But static sites are too boring.
- Exploring the capabilities of Hypertext and WebSockets through LiveView for interactive web apps
- Applying functional programming techniques to scalable software development

Elixir Phoenix LiveView Tailwind CSS fly.io Tigris S3 Object Storage

Certificates & Awards

2020	**ISO 21500 – Project Management**, Fonden Dansk Standard
2019	**3RD PLACE - EBEC European BEST Engineering Competition**, Microsoft, BEST Copenhagen and EBEC

Skills

Languages	English | Danish
Tech Stack	Python | Go | Nix | Elixir | Phoenix
Soft Skills	Independent | Commitment | Systematic | Empathic
Personal Interests	Running | CrossFit | Climbing | Reading | Coding | Gaming
Computer Science (Highlights)	Functional Programming | Operating Systems and Configuration | Algorithms and Data Structures | Distributed Applications | High-Performance Clusters (HPCs) | Generative Methods & Creative Coding | MLOps & DevOps (Reproducibility)
Artificial Intelligence (Highlights)	Stochastic Simulations | Machine Learning & Data Mining | Multi-Agent Systems & Logic | Statistical Modeling | Social Data Analysis & Storytelling | Natural Language Processing | Reinforcement Learning | Bayesian Methods | Signal Processing | Causation (Cause & Effect)