

# Benjamin Starostka Jakobsen

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

## Education



### Technical University of Denmark (DTU)

MASTER OF SCIENCE IN ENGINEERING (ARTIFICIAL INTELLIGENCE AND DATA SCIENCE)

DK

2021 - 2024

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



### Technical University of Denmark (DTU)

BACHELOR OF SCIENCE IN ENGINEERING (COMPUTER SCIENCE)

DK

2018 - 2021

- Thesis: Implementation of Advanced Deep Learning Methods to Improve Information Retrieval

## Professional Experience



### Kompasbank

ARTIFICIAL INTELLIGENCE ENGINEER (STUDENT WORKER)

Vedbæk, DK

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

VOLUNTEER APP DEVELOPER

DTU Campus

2019 - 2022

- Pushed the limits of a phone emulator and maximized the free quota in Firebase
- Discovered that cross-platform doesn't always mean cross-OS (iPhone vs. Android)

React Native TypeScript Node.js GraphQL Flutter Dart



### KMD

SOFTWARE DEVELOPER (STUDENT WORKER)

Ballerup, DK

2019 - 2022

- Maintained and developed 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

STUDENT WORKER: TESTING THE AVIATOR-S INMARSAT L-BAND SOLUTION

Kongens Lyngby, DK

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 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".

### Image Search Engine

AI-POWERED USING CLIP AND QDRANT WITH DAG DATA FLOWS

Kongens Lyngby, DK

2024

- Developed a vector-driven search engine to enhance the search experience for Landfolk and BestSeller's sister companies

Qdrant Hamilton Dask Apache Arrow GGML REST API

### End-to-end Training of Retrieval-Augmented LMs (REALM, RAG)

VOD-LM (CONTRIBUTOR)

Pioneer Centre for AI, CPH Botanical Garden

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

Ooga Booga Game Dev

Online Community

GAME DEV & GRAPHICS PROGRAMMING

Present

- Game development and graphics programming are gateways to creating software you can truly love (SYCL)
- 3D animations and VFX have always been a source of excitement for me

C Zig raylib Vulkan OpenGL

starostka.io (A Shokunin Project)

Kongens Lyngby, DK

PHOENIX-BASED WEBSITE AND BLOG

Present

- Developing a personal portfolio website.. Overkill? Mby. 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 RabbitMQ

Source Engine Modding

Mom's Basement

MODDING & SERVER HOSTING

Back in My Early Gamer Days

- Lifelong fan of Valve's Source Engine and Half-Life, drawn by the vibrant modding community
- Hosted dedicated servers for CS, TF2, and Garry's Mod
- Engaged in modding and creating custom content, including weapon skins (VTX and MDL) and maps for CS using the Hammer Editor

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