Christoffer Koo Øhrstrøm

PhD student @ Technical University of Denmark

I am passionate about doing deep learning research that has a positive impact on society.

Education

2024–current **PhD in Robotic Perception**, *DTU*
Researching deep learning methods for robotic perception. The goal is to make agricultural vehicles sufficiently safe, through improved perception, to become autonomous. I am particularly interested in event cameras, spatio-temporal data, and sensor fusion.
Advisors: Lazaros Nalpantidis and Ole Ravn.

2018–2020 **Computer Science, Dual MSc. (GPA: 11.39 / 12)**, *DTU & KAIST*
Dual-degree at Technical University of Denmark (DTU) and Korea Advanced Institute of Science and Technology (KAIST). Member of Users & Information research lab. Master's thesis was motivated by the relevance of a linguistically informed inductive bias in NLP.
Advisors: Alice Oh and Ole Winther.

2012–2015 **Computer Science, BSc. (GPA: 9.78 / 12)**, *University of Copenhagen*

Publications

Spiking Patches: Asynchronous, Sparse, and Efficient Tokens for Event Cameras.
arXiv preprint arXiv:2510.26614 (2025).

Experience

2020–2024 **Senior Data Scientist**, *Visma Machine Learning Assets*, www.vml.visma.ai
Developed deep learning models for document understanding (invoices, receipts, etc.). I used methods from both natural language processing and computer vision.

- Pretraining custom 1.4B parameter multimodal generative transformer-based model from scratch on proprietary dataset of 56M documents
- Scaling pretraining across multiple nodes and GPUs
- Fine-tuning above model to answer any question a user may have about a document
- Optimizing model to handle over 10M documents per month with <1s response time
- Contributing to Hugging Face transformers with implementation of LayoutLMv3
- Speaking at internal conferences and talks on AI with up to 1000 participants
- Communicating deep learning research on the Visma blog
- Teaching high school and immigrant students about deep learning
- Attending research conferences (ICDAR 21 and NeurIPS 22/23)

2017–2019 **Lead Software Developer**, *Grid Optimizer*
Lead on application to design, manage, and automate processes in fiber grid networks.

- Designed and developed responsive web-application using TypeScript and React
- Applied machine learning to segment ground objects from drone footage
- Integrated databases (relational, graph, and text-based search) for efficient queries
- Designed and developed interactive visualizations of grid components

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2015–2017 **Co-founder and CTO**, *Collabo*
Co-founded company to improve collaboration between textile companies and their suppliers.

- Solely developed the application in Python and TypeScript at 100K lines of code
- Wrote applications to funds and accelerators
- Interviewed at Y Combinator and 500 Startups
- Enrolled in the Entrepreneurial Pilot programme by Innovation Fund Denmark
- Received Innobooster grant from Innovation Fund Denmark

2015 **Teaching Assistant**, *Department of Computer Science, University of Copenhagen*

2012–2015 **Analyst**, *eCapacity*

2010–2012 **Swimming Coach**, *Gladsaxe Swim Copenhagen*

Projects

- Parallel Recurrent Neural Network Grammars (Master's Thesis)
- Neural machine translation
- Wasserstein GAN for intrusion detection
- Soft actor-critic reinforcement learning agent in real-world setting
- Comparison of reinforcement learning algorithms for learning to play Doom

Languages

My native language is **Danish**, and I am fluent in both written and spoken **English**. I write and speak **Spanish** and **Korean** at a beginner's level.

Programming Languages

My core programming languages are **Python**, **Rust**, and **JavaScript**/**TypeScript**. I have experience with over 15 programming languages from my work and my studies. This has made me able to very quickly learn a new language.

Frameworks & Platforms

I am well versed in many frameworks and platforms. My core frameworks are **PyTorch** and **Lightning**. I actively use *NumPy*, *Matplotlib*, *Pandas*, and *Git*. I have previously used these for several years: *DeepSpeed*, *AWS*, *Google Cloud*, and *Docker*.

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