John **Backsund**

MACHINE LEARNING ENGINEER | DATA SCIENCE CONSULTANT

Norrtullsgatan 13, Stockholm, Sweden

+46 723719325 | j.backsund@gmail.com | johBac97 | johnbacksund

Summary

Machine Learning Engineer with experience across applied research in computer vision, reinforcement learning and NLP. Worked in both industrial and academic environments developing and productionizing ML systems.

Experience

Mindified AB — *Stockholm, Sweden*
MACHINE LEARNING ENGINEERING CONSULTANT — *Oct 2023 – Present*

- **Project: Customer Support Analytics Platform (Jan 2024 – Present)**
  Built a customer support interaction analytics solution processing more than 20,000 conversations per day for a global retail business.
    - **Transcription & Translation Systems:** Designed and implemented two GPU-accelerated machine learning services on Kubernetes for transcription of audio conversations and translation, reducing transcription cost by 100x and translation by 10x compared to previous solutions. Powered by open-source models the services processed 10k conversations per day.
    - **Intent Classification Improvements:** Improved a customer intent classification model by introducing self-supervised pretraining, migrating from DistilBERT to ModernBERT and consolidating multiple hierarchical models into a single unified classifier trained with hierarchical loss. Resulting in an accuracy improvement of 20% in relevant test datasets.
    - **Data Engineering & Cross-Market Integration:** Built GCP-based data pipelines using DBT and BigQuery to integrate and validate data from numerous internal sources across the organization. Processed information covering nearly one million products and services across 30+ markets. Outputs supported dashboards and a frontend tool used by both local teams and global leadership to analyze support operations and identify issues at scale.
- **Project: RAG-based Equipment Assistant (Nov 2023 – Dec 2023)**
  Developed a pilot RAG system for the retrieval of technical documentation for a industrial equipment manufacturer. I worked on LLM integration and evaluation.

FLIR AB — *Stockholm, Sweden*
DEEP LEARNING ENGINEER — *Mar 2023 – Sep 2023*

- Worked on AI team developing computer vision systems for thermal video.

LiveEO GmbH | Internship — *Berlin, Germany*
MACHINE LEARNING INTERN — *Aug 2022 – Feb 2023*

- Contributed to a research project to improve Digital Surface Models from stereo imagery.
- Worked on satellite data processing, ML model training, and pipeline automation.
- Participated in code reviews and contributed to internal tooling and documentation.

Combain Mobile AB | Part Time — *Lund, Sweden*
JUNIOR ALGORITHM DEVELOPER — *Dec 2020 – Oct 2021*

- Implemented indoor navigation algorithms in Julia, ported from Matlab/C++.
- Built a data ingestion system on AWS for positioning systems used worldwide.

Education

Lund University (LTH) — *Lund, Sweden*
M.SC. IN ENGINEERING PHYSICS, SPECIALIZATION IN MACHINE INTELLIGENCE — *2017 – 2022*

- Core studies in mathematics, physics, and machine learning.
- **Master Thesis (at RISE AB):** *Aerial View Goal Localization with Reinforcement Learning*
    - Developed a self-supervised reinforcement learning framework for drone-based image patch localization in satellite imagery.
    - Paper accepted to a workshop at ICLR 2023.

Skills

Programming: Python • C++ • C • SQL / GoogleSQL • Julia • MATLAB • Bash

Frameworks & Libraries: PyTorch • NumPy • GDAL • OpenCV • scikit-learn • transformers

Tools & Platforms: Docker • AWS • GCP • Linux • Git • MLflow

Languages

Swedish (Native) • English (C2 - Fluent) • German (Conversational)