

Gustaf Rydholm

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Experience

Software Engineer

Nexure

Aug 2021 – present
Stockholm, Sweden

Working with backend development for payment solutions.

Keywords: Kotlin, backend, SQL, NoSQL, Spring Boot, AWS, Kubernetes, microservices, Docker, CI/CD

Machine Learning Engineer

Saab

Oct 2020 – Aug 2021 10 months
Stockholm, Sweden

Worked on a cloud application for the surveillance and intelligence domain. Developed deep learning models for multi-modal sequence predictions. I also did a lot of backend engineering and data mining.

Keywords: Python, Kubernetes, Helm, Deep Learning, data mining, microservices, Kafka, Docker, CI/CD

Machine Learning Engineer

Saab

Aug 2018 – Oct 2020 2 years and 2 months
Stockholm, Sweden

Researched potential use cases for machine learning within the electronic warfare domain. I developed simulation software for complex signal environments. This simulator allowed the entire research team to investigate new ideas quicker.

Keywords: Python, VHDL, PyTorch, Digital Signal Processing

Education

KTH Royal Institute of Technology

Master of Science in Electrical Engineering

2013 – 2018

Undergraduate and graduate course within electrical engineering.

Imperial College London

Electrical and Electronic Engineering

2016 – 2017

Exchange year during my M.Sc.

Personal Projects

Text Recognizer

Ongoing

Reimplemented the Full Stack Deep Learning course with best practices in Python. I started this project to develop the best structure for PyTorch projects. But now it keeps me motivated to experiment with new architectures and read up on the latest research developments, e.g. self supervised learning, vision transformers, multi-modal models.

Keywords: PyTorch, PyTorch Lightning, Hydra, Nox, Poetry, Pyenv, Python

Trading Robot

Ongoing

I am currently working on a algorithmic trading system with signal processing algorithms and convex optimization. I mostly done literature study so far.

Keywords: Nomad, Nats, Event-Based Design

Technical Skills

Programming

Haskell – Familiar

I find functional programming really inspiring, and I have just started to picking up Haskell.

Rust – Familiar

Limited experience, but my future language of choice.

Python – Fluent

Used it for almost a decade; web services, scientific computing, you name it.

Scripting

shell – Proficient

Used it for various small task such as bootstrapping an email server, add functionality to my operating system, etc.

lua – Intermediate

I used it to configure my nvim config.

fennel – Intermediate

I used it to reconfigure my nvim config. I am completely sold on the Lisp syntax and macro system.

Markup

TeX – Fluent

Mastered it while studying to become an electrical engineer.

HTML – Familiar

Working knowledge, use it for my personal website.

Databases & Message Brokers

NoSQL – Intermediate

I have experience with both mongodb and redis.

SQL – Intermediate

I have experience working with postgres and timescaledb.

Kafka – Intermediate

Deployed and maintained a kafka instance in a private cloud.

Machine Learning

PyTorch – Proficient

Used extensively for +5 years.

PyTorch Lightning – Proficient

Used with PyTorch for +2 years.

Miscellaneous

Git – Proficient

I host my own git server, I have used git for +7 years.

Kubernetes – Experienced

I have worked with Kubernetes since 2019, self-hosted and at cloud provider.

Terraform – Intermediate

Used it to deploy k8s to azure.

Containers – Proficient

I have in depth knowledge of the concept. I work with Docker daily, and I enjoy building the most efficient Dockerfiles possible, e.g. multi-stage builds.

CI/CD pipelines – Proficient

Experience with Tekton, CircleCI, GitHub actions.

Architecture

I adhere by the unix and suckless philosophy. I found the book *Tao of Microservices* to be really inspiring, as he presents a framework to design microservices from first principles.

Operating Systems

I use Artix Linux.

General Skills

Languages

- Swedish – native
- English – C2