

HENRIK LINDGREN

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EDUCATION

Linköping University M.Sc Electrical Engineering - Mechatronics specialization	Linköping, Sweden Jan 2020 - Jun 2021
Southampton University M.Sc Electrical Engineering - Semester abroad	Southampton, England Sep 2019 - Jan 2020
Linköping University B.Sc Mechanical Engineering	Linköping, Sweden Aug 2016 - Jun 2019

EXPERIENCE

Volvo cars <i>Control system engineer</i>	Göteborg, Sweden Aug 2021 - Present
<ul style="list-style-type: none">• Single-handedly designed, implemented, tested and calibrated control strategies controlling the cooling and heating system of Volvos and Polestars next generation of electric cars. Now in production.• Single-handedly designed and implemented a fully automated data infrastructure for a large department at Volvo Cars. This included developing Python scripts for efficient data extraction from tests, creating a metadata website for all files, and automating fault detection in log files, significantly improving data accessibility and analysis capabilities. Saving hundreds of hours and improving quality of the products.• On our own initiative, my colleague and I developed a fully automated logging system that competes with established industry equipment. Capitalizing on our comprehensive knowledge of Volvo car systems, our solution offers superior functionality with automatic log uploads and zero user interaction, potentially saving Volvo millions and accelerating development by years.	
Scania <i>Thesis worker</i>	Södertälje, Sweden Jan 2021 - Jun 2021
<ul style="list-style-type: none">• Researching the capabilities of hybrid data-driven and model-based diagnosis. Working together with Scania to explore the effectiveness of data-driven methods compared to standard techniques.	
Volvo Cars <i>CDIO Student project</i>	Linköping, Sweden Aug 2020 - Dec 2020
<ul style="list-style-type: none">• Designed and Modelled a nonlinear MIMO MPC and Kalmanfilter to control throttle and variable valve timing of a volvo engine. Implemented through d-space a real test bench engine.• Project overview: http://www.isy.liu.se/edu/projekt/tsrt10/2020/volvo/	
Newton Nordic <i>Research Engineer</i>	Linköping, Sweden Jun 2020 - Oct 2020
<ul style="list-style-type: none">• Researched the possibilities of controlling a camera gimble with the use of a system model instead of the current manual tuning. A proof of concept showing promising results.• Article: https://liu.se/en/news-item/modellen-funkade-inte-men-det-gjorde-sommarjobbet	

SKILLS

Programming:	Python, Docker, C, C++, Git, Ansible, Databricks, Linux, Networking
Advanced Control Theory:	MPC, LQR, H-infinity, Nyqvist
Filtering:	Kalman, Extended Kalman, Unscented Kalman, Particle filter
Other:	Sensor Fusion, SLAM, Machine learning, RNN
Languages:	Swedish, English — Native/Bilingual

LATEST PROJECTS, SEE GITHUB

Home Server <i>Linux Ubuntu Server, Docker, Yaml, networking, VPN, reverse proxy, ZFS, home assistant</i> https://henrikindgren.com/ Hosting my own domain, henrikindgren.com with https and login credentials my NAS is using ubuntu server as an OS to host multiple docker containers and packages. Also enabling an endless amount of projects.
Discord Image generation bot <i>Python, Docker, Stable-diffusion, GPU, NAS, Discord API</i> Developed and maintain a 24/7 active Discord bot hosted on my server. Features text-to-image capabilities, allowing users to generate custom visuals. Freely available for integration across various Discord servers.

CITIZENSHIP

Dual American and Swedish Citizen