Gustav Vallinder

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About

Control engineer and software developer, currently pursuing an industrial PhD in automatic control for autonomous driving at Scania and KTH. I am passionate about combining numerical methods, physics and software to improve the safety and performance of vehicles. After finishing my PhD, I intend to continue my career in industrial R&D.

Experience

Industrial PhD Student (Affiliated with KTH Royal Institute of Technology)
Traton AB | July 2025 - Present
Scania CV AB | October 2022 - June 2025

- Conducting motion control research in the AllDrive project to enable safe autonomous driving of semi-trailer trucks in winter conditions.
- Developing friction-aware motion control algorithms and software for testing at winter proving grounds in northern Sweden.
- Collaborating cross-functionally with students, researchers and engineers in industry and academia.

Software Developer
Epiroc Rock Drills AB | August 2021 - August 2022

- Developed control, obstacle avoidance and localization features for autonomous underground mining trucks and LHDs.
- Improved the performance of vehicles at customer sites through tuning, in-vehicle tests and analysis of log data.

Education

Master of Science in Electrical Engineering
Uppsala University | August 2016 - June 2021

- Specialization on systems and control with courses in control theory, signal processing, embedded systems, machine learning, and optimization.
- Spent a year as an exchange student in Germany at the Technical University of Munich.
- Did master thesis with Epiroc to improve speed and accuracy of autonomous LHDs using path following model predictive control.

Skills

Interests
Autonomous Systems, Vehicle Dynamics, Model Predictive Control, Modelling and Simulation, State Estimation.

Software
C++, Python, MATLAB, Linux, Git, Jira.

Additional Experience

Teaching

Automatic Control, Basic Course, KTH Royal Institute of Technology, 2023.
Digital Technology and Electronics, Uppsala University, 2019.
Digital Electronics, Uppsala University, 2018.

Volunteering

Head of Corporate Relations, Uppsala Studentförening Elektroteknik, 2018.
Student Union Council Rep., Uppsala Studentförening Elektroteknik, 2017.

Merits

Memberships

Affiliated PhD Student, WASP Graduate School.
Member, SVEA Swedish Vehicular Engineering Association.
Affiliate, IFAC International Federation of Automatic Control.

Awards

Forsmark Kraftgrupp AB Scholarship, 2015.