Gustav Vallinder

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Profile

Control engineer and software developer, currently pursuing an industrial PhD in 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   Oct 2022 - Present
Scania CV AB & KTH Royal Institute of Technology

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

Software Developer   Aug 2021 - Sept 2022
Epiroc Rock Drills AB

- Developed control, obstacle avoidance and localization features for automated underground mining trucks and loaders.
- Did master thesis to improve speed and accuracy of automated loaders using path following model predictive control.
- Performed in-vehicle tests and analyzed log data to tune and improve the performance of vehicles at customer sites.

Education

MSc in Electrical Engineering   Aug 2016 - Oct 2021
Uppsala University

- 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.

Skills

Autonomous Systems, Vehicle Dynamics, Model Predictive Control, State Estimation, Modelling and Simulation, MATLAB/Simulink, C++, Python, Linux, Git, Jira.

Additional Experience

Teaching
Automatic Control, General 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 Representative, Uppsala Studentförening Elektroteknik, 2017.

Merits

Memberships
Affiliated PhD Student, WASP Graduate School.
Member, SVEA Swedish Vehicular Engineering Association.

Awards
Forsmark Kraftgrupp AB Scholarship.