

Hansol Yoon

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Summary

I am the first year CS Ph.D. student interested in the verification and synthesis of Cyber-Physical Systems and deep learning. I have experience analyzing controllers of autonomous systems such as small unmanned aerial vehicles and small autonomous cars to create a predictive run-time safety monitors. I worked at the Avionics Software Development Center in Korea as a project manager and a software engineer.

Research Interests: Run-time verification and control synthesis; Deep learning; Robotics.

Education

Ph.D. Computer Science, University of Colorado Boulder, Advisor: Prof. Sriram Sankaranarayanan	Aug. 2019 - Present
M.S. Computer Science, University of Colorado Boulder,	Aug. 2017 - May. 2019
B.S. Computer Science, Republic of Korea Air Force Academy,	Mar. 2006 - Mar. 2010

Student Projects

Small Autonomous Driving Car

Developed and implemented a control algorithm integrating sensor data.
Implemented deep learning to recognize a stop sign.
Implemented VI-SLAM using a camera.

Predictive Runtime Monitor for Unmanned Aerial Vehicles

Built an algorithm to check a safety violation of a UAV.
Created a runtime monitor to guarantee safety of a UAV under disturbances.

Work Experience

Avionics Software Development Center in Republic of Korea Air Force	2011 - 2017
Participated avionics software development projects as a project manager and a software engineer. Design and test software in Israel and Germany as a representative of the Korean Air Force.	

Programming Skills

OS: Linux, MacOSX, and Windows
Languages: Python, C, Matlab

Publication

Hansol Yoon, Yi Chou, Xin Chen, Eric Frew, and Sriram Sankaranarayanan, "Predictive Runtime Monitoring for Linear Stochastic Systems and Applications to Geofence Enforcement for UAVs." *International Conference on Runtime Verification (RV)*, 2019.