Hansol Yoon

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Summary

I am the first year CS Ph.D. student interested in the verification of Cyber-Physical Systems that are often safety-critical, 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; motion prediction; Deep learning; Robotics.

Education

Ph.D. Computer Science, University of Colorado Boulder, Aug. 2019 - Present

Advisor: Prof. Sriram Sankaranarayanan

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

Predictive Runtime Monitor for Unmanned Aerial Vehicles

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

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.

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.
Designed and tested software in Israel and Germany as a representative of the Korean Air Force.

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.*