

# Hansol Yoon

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## Summary

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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

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

## Student Projects

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### 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 by modeling future behaviors of a UAV.  
Created a runtime monitor to guarantee safety of a UAV under disturbances.

## Work Experience

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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

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

## Publication

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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.