# Jinhong "Jin" Choi

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## Summary

Experienced in multiple projects for cyber-physical systems (CPS), with a focus on drones, during my MS in Computer Science. Possesses a strong foundation in both computer science and mechanical engineering, backed by 3 years of work experience in the automotive industry. Driven by a vision to develop advanced middlewares for various CPS, from IoT devices to ground and air vehicles, that meets the evolving demands of both the present and the future.

## Education

**Oregon State University** — *Corvallis, OR*
*Master of Science in Electrical Engineering and Computer Science (GPA: 3.83/4.00)* — Apr 2019 – Aug 2024

**Massachusetts Institute of Technology (MIT)** — *Cambridge, MA*
*Completed 72 credits towards graduate degree in Mechanical Engineering (GPA: 4.8/5.0)* — Sep 2010 – Jan 2014

**Korea Advanced Institute of Science and Technology (KAIST)** — *Daejeon, South Korea*
*Bachelors of Science in Mechanical Engineering, Minor in Business Management* — Mar 2003 – Jan 2010
*Graduated summa cum laude (GPA: 3.91/4.00)*

## Work Experience

**Oregon State University** — *Corvallis, OR*
*Graduate Research/Teaching Assistant* — Jun 2020 – Jun 2024

- Conducted three projects with FAA regarding cyber-physical security and safety of Unmanned Aircraft System (UAS)
- Conducted a project with OMIC to enhance human-robot teaming via improvements to nonverbal robot expression
- Lectured labs and recitations, held office hours, and graded assignments for Operating Systems II, Algorithms and Data Structures courses

**Hyundai KEFICO** — *Gunpo, South Korea*
*Researcher in Prototype Development Team* — Feb 2016 – Feb 2019

- Prototyped gasoline fuel injectors under development, specialized to control femto-second laser machines for precise drilling of fuel spray holes

**LX Hausys *(previously LG Hausys)*** — *Seoul, South Korea*
*Consultant* — Feb 2010 – Jun 2010

- Consulted on optically transparent adhesive used in touchscreens for mobile devices

**Hantouch** — *Seoul, South Korea*
*Researcher (alternative to mandatory military service)* — Feb 2007 – May 2009

- Developed resistive touchscreens integrated with mobile devices, securing three patents in South Korea

## Projects

**Crazyflie** | *C, Python* — Jun 2023 – Present

- Implemented theoretical algorithms for indoor, palm-sized drones
- Conducted experiments with a swarm of drones, enabling wireless communication and decentralized operation
- Built an indoor testbed for drones, including a positioning system

## Technical Skills & Languages

**Programming Languages** C/C++, Python, Julia, Haskell, MATLAB, LaTeX
**Platforms** FreeRTOS, ROS, Linux, Protobuf, CAN/LIN
**Tools** Git, VS Code, AutoCAD
**Languagues** *Korean* (Native), *English* (Professional)

## Publications

[1] Unmesh Uttam Patil, **Jinhong Choi**, and Houssam Abbas. "OUT-HERD: Opportunistic UAV Takeover for Herding Malfunctioning Drones". In: *2024 IEEE 27th International Conference on Intelligent Transportation Systems (ITSC)*. 2024.

[2] **Jinhong Choi** and Yeongjin Jang. "A Survey on Sensor False Data Injection Attacks and Countermeasures in Cyber-Physical and Embedded Systems". In: *Information Security Applications: 23rd International Conference, WISA 2022, Revised Selected Papers*. Springer. 2022.