HYUNGJUN DOH

Master's Thesis Track

PROFILE

Deep Learning researcher with expertise in **3D Reconstruction**, focusing on category-agnostic 3D articulated objects reconstruction, 3D human avatars, and object pose estimation. Specializes in integrating **Gaussian Splatting** and **Diffusion Models** to enhance the quality of 3D object reconstruction, driving innovation in fields such as **XR** and **Digital Twins**.

CONTACT DETAILS

- ✉ Email: hdoh@purdue.edu
- 🔗 Linkedin   🎓 Google Scholar
- 🏠 Homepage   🐙 Github

ACADEMIC ACTIVITIES

Reviewer
- Conferences: CHI(2025)

Leadership
- Student Organization President
  Korean-American Scientists and Engineers Association Young Generation (KSEA YG Purdue)
  2021-2022, Purdue University

Teaching
- Graduate Teaching Assistant
  Calculus 1 (MA 16500)
  Present, Purdue University
- Undergraduate Teaching Assistant
  Artificial Intelligence (ECE 57000)
  2023, Purdue University

AWARD & HONORS

- **Scholarship**, Howard J. Heim Memorial Scholarship: ECE Great Work Award, 2023, Purdue University
- **Fellowship**, Summer Undergraduate Research Fellowship, 2023, Purdue University
- **Dean's List**, Purdue Dean's List, 2018–2023
- **Honors**, Purdue Semester Honors, 2019–2023

SKILLS

- **Python**, **C/C++**, C#, Java, JavaScript
- **Pytorch**, TensorFlow, **OpenCV**
- **Vim**, Linux, Git, VSCode
- Unity, Blender, Houdini

EDUCATION

PURDUE UNIVERSITY
West Lafayette, IN
Master's in Electrical and Computer Engineering
2024–Present
- Advisor : Prof. Karthik Ramani
- Research Interest: *Artificial Intelligence for 3D Reconstruction: Articulated Objects and Avatars*

PURDUE UNIVERSITY
West Lafayette, IN
Bachelor of Science in Computer Engineering
2018–2023
- Overall GPA: 3.60
- Two years of military service (2019 - 2021)

EXPERIENCE

RESEARCH - PURDUE UNIVERSITY
West Lafayette, IN
RESEARCH ASSISTANT (DR. KARTHIK RAMANI)
Aug. 2024 – Present
- Led exploratory research on AI-generated multi-modal content's impact on AR storytelling creation and perception. → **[C4]**
- Developed 3D reconstruction models for category-agnostic articulated objects from monocular video using Gaussian Splatting. *Targeting* **ICCV 2025**

YONSEI UNIVERSITY
Seoul, Korea
INTERN RESEARCHER (DR. JUNGHO HWANG)
Jan. 2024 – July. 2024
- Conducted computer vision research on behavior analysis for animals and plants using an aerosol exposure chamber.

UNDERGRADUATE RESEARCH - PURDUE UNIVERSITY
West Lafayette, IN
RESEARCH ASSISTANT (DR. KARTHIK RAMANI)
Jan. 2023 – Dec. 2023
- Developed an AR interface for authoring instructions and developed a user interface to evaluate the system via a user study. → **[C3]**
- Reviewed 154 papers on Generative AI applications and contributed to synthesizing a taxonomy of human-GenAI interactions. → **[C2]**
- Implemented an MR interface for learning assembly tasks with visual representations of causal relationships. → **[C1]**

VERTICALLY INTEGRATED PROJECTS - PURDUE UNIVERSITY
West Lafayette, IN
TEAM LEADER (ADVISOR: DR. MOHAMMAD JAHANSHAHI)
Aug. 2022 - May. 2023
- Implemented a semantic segmentation network to detect defects on construction sites.
- Generated 56 cracks and scratches datasets, each comprising 308 images, using the Houdini.

REPUBLIC OF KOREA ARMY
Daegu, Korea
DRILL INSTRUCTOR - SQUAD LEADER
Aug. 2019 - March. 2021
- Served in a Recruit Training Battalion, responsible for training new recruits, organizing drill plans and ensuring adherence to safety protocols and guidelines.
- Led a team of 18 experienced drill instructors and trained approximately 2100+ army recruits.

ENGINEERING PROJECTS

PACKAGE MANAGER API - PURDUE UNIVERSITY
West Lafayette, IN
TEAM LEADER
Jan. 2023 – May. 2023
- Implemented 17 features, totaling 2029 lines of code, to manage project packages using TypeScript and Firebase.
- Set up Continuous Integration (CI) and Continuous Delivery (CD) pipelines for efficient development workflows.

PUBLICATION

- **[C4] H. Doh** et al., An Exploratory Study on Multi-modal Generative AI in AR Storytelling, *CHI 2025*. (submitted)
- **[C3]** S. Chi et al., CARING-AI: Towards Authoring Context-aware Augmented Reality INstruction through Generative Artificial Intelligence, *CHI 2025*. (submitted)
- **[C2]** J. Shi et al., An HCI-Centric Survey and Taxonomy of Human-GenAI Interactions, *CSUR 2024*. (submitted)
- **[C1]** R. Jain et al., Visualizing Causality in Mixed Reality for Manual Task Learning: Exploratory Study, *TVCG 2024*. (submitted)