Hun Min Do

Research Interests: Human-Computer/Robot Interaction, User eXperience, Service Design, Digital HealthI
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Experience

Sungkyunkwan University | Smardi Lab — *Suwon, South Korea*
School of Mechanical Engineering **| Undergraduate Student Researcher** — *Dec 2024 - Oct 2025*

- Assisted in a service design project/research under Prof. **Jaeboong Choi**, focusing on data-driven digital personas, user interview coding, and SPSS analysis.
- **Research Domain**: Service Design Process, User experience, Human-Computer Interaction
- **Completed Coursework**: A new human, phono sapiens Experience Design, Product-Service Convergence Design, User Experience Capstone Design, Introduction to Artificial Intelligence, Convergence Capstone Experience Design

Sungkyunkwan University | Rise Lab — *Suwon, South Korea*
School of Mechanical Engineering **| Undergraduate Research Program Researcher** — *Jun 2024 - Aug 2024*

- Advised by Prof. **Hyungpil Moon**, conducted research on obstacle prediction algorithms using Kalman Filter and Extended Kalman Filter (KF/EKF), leveraging the CARLA autonomous driving simulator on Ubuntu ROS2. Focused on real-time obstacle detection and future position estimation through sensor fusion and probabilistic motion modeling.
- **Completed Coursework**: Design Lab on Vibration and Dynamic Systems, Mobile System Control

Education

Sungkyunkwan University — *Seoul/Suwon, South Korea*
B.S. in Mechanical Engineering — *Mar 2021 - Expected Aug 2026*
School of Mechanical Engineering | GPA: 4.04/4.5 (Major: 3.98/4.5)

Korea National Institute for Lifelong Education Credit Bank — *Seoul, South Korea*
Bachelor of Business Administration — *Mar 2019 - Feb 2021*
Major in Business Administration | GPA: 3.04/4.5

Projects

TourGenie- Formally Verified Agentic Workflow for Personalized Travel Planning — *Sep 2025 - Present*

- Currently developing an Agentic AI travel-planning workflow
- Reviewing benchmark datasets (Travel Planner, TripCraft) and recent Agentic AI papers to establish evaluation criteria and shape a unified workflow framework.

Proposing feature enhancements for the Job Matching Platform, Korea SMEs and Startups Agency (KOSME) — *Aug 2025 - Oct 2025*

- Led the end-to-end project workflow, including user research, information architecture, prototyping, and usability testing
- Structured core problems and pain points through qualitative interviews, personas, and JTBD analysis
- Designed key features such as enhanced search logic, transparent recommendation rationale, and comparative/apply-tracking tools
- Planned and analyzed usability testing, driving significant improvements in satisfaction, relevance, and overall usability

***Generative Engine Optimization (GEO) Project*, Maeil Business, Smardi Lab** — *May 2025 - Present*

- Leading a project with Maeil Business Newspaper to enhance article structure for increased citation and visibility in generative AI model(ChatGPT04o)
- Analyzing patterns of AI citation behavior using prompt-based audits and LLM interaction logs
- Exploring content-level and metadata-level factors (e.g., headline specificity, named entity density, source credibility) that influence AI-generated references
- Aiming to establish practical editorial guidelines to enhance AI discoverability and citation frequency of Maeil Business articles

Special Purpose Tourism Analysis Project, Korea Tourism Organization (KTO), Smardi Lab *Jan 2025 - Jul 2025*

- Coded qualitative data and developed information architecture (IA), service blueprint, and user scenarios
- Segmented special-purpose tourist types (e.g., medical, multipurpose, influencer-type) using social network analysis (SNA)
- Analyzed roaming-based behavioral patterns to inform patient-specific design strategy

Industry-Academia Project– Home Appliance Robot "Ballie", Samsung Electronics *Mar 2025 - Jun 2025*

- Conducted in-depth user research on solo-living MZ generation to identify lifestyle-based concerns in emotion, health, and finance
- Developed AI home robot scenarios using a behavioral model (observe–record–suggest) to simulate the role of a companion in multi-domain routines
- Created value-driven personas and use-case-based service features including emotion check-ins, wellness reminders, and smart spending alerts
- Delivered user journey prototypes and a final concept pitch to Samsung stakeholders, positioning *Ballie* as a personalized lifestyle assistant

UX Project – Designing Inpatient Recovery Support Service, Samsung Medical Center *Sep 2024 - Dec 2024*

- Conducted user journey analysis and in-hospital interviews to identify emotional and physical recovery pain points
- Designed UX personas and service blueprint based on patient insights and recovery motivation triggers
- Proposed a mobile app (*Haeboa*) offering personalized micro-task rehabilitation and wishlist-based goal tracking
- Developed IA, wireframes, and UI/UX prototypes; presented final concept to medical stakeholders

Co-Deep Learning Project : Panic Attack Diagnosis Using Wearable ECG Monitoring, Sungkyunkwan University *Sep 2024 - Jan 2025*

- Synthesized user insights through interviews and secondary research to propose panic disorder detection as the project focus
- Conducted literature review on HRV-based stress/anxiety detection models and adapted applicable features (e.g., RMSSD, SDNN)
- Formulated custom fusion Formula combining wearable ECG signals with self-reported panic survey scores (PDSS, APPQ)
- Designed mobile app UI/UX prototype to visualize personalized risk scores and behavioral feedback in real time

Development of AI-Based Earthquake Damage Prediction and Guidelines Design using Kyrgyzstan's Seismic Data, Sungkyunkwan University, KOICA, Korea *Mar 2024 - Jul 2025*

- Proposed an AI-driven disaster response system using seismic data from Kyrgyzstan to predict earthquake damage and support early warning
- Designed a scalable data collection and model training infrastructure, in collaboration with local governments and research institutions
- Outlined a 5-year implementation plan including community education, policy linkage, and sustainable AI operations

Publications

(International)

- Oh H, **Do H**, Maeng C, Park J, Yoon T, Kim J, Hwang H, Choi S, Huilin P
Panic Attack Prediction for Patients With Panic Disorder via Machine Learning and Wearable Electrocardiography Monitoring: Model Development and Validation Study J Med Internet Res 2025;27:e69045 *(JMIR)(**Q1**, Impact Factor = 7.5)*. (2025)
DOI: 10.2196/69045

Publications

(Domestic)

- **Hun-Min Do**, Chae-hyun Maeng, Jin-Suk Park, Tae-jun Yoon, & Ha-Young Oh
Wearable ECG-Based Multimodal Panic Attack Prediction Model. Journal of the Korea Institute of Information and Communication Engineering, 29(3), 297-302. 10.6109/jkiice. (2025)

- **Hun-Min Do** and You-Jin Lee.
The Impact of AI Agents' Use of Address/Reference Terms on Perceived Anthropomorphism and User Experience. Journal of Digital Contents Society, 26(9), 2353-2363. (2025)

Conference

(International)

· **[Accepted] (Full Paper)** Lee, Youjin, and **Hunmin Do**.
"Design for Deletion: Enhancing Cognitive Fluency in Digital Hoarding Contexts." HCI International 2026, Springer, 2026.

Patents

· **DO Hun Min**, SIM Kyu Min, SONG Jun Young, 'APPARATUS FOR CLEANING IRON CHIPS', KR-Application Number-PATENT-2018-0006933

Awards & Scholarships

DB GAPS Investment Competition – Excellence Award (Top 3 / 840 teams), DB Financial Investments & DB Kim Joon-Ki Foundation — *Oct 2025*

Peer Review Award, Co-Deep Learning Project, Sungkyunkwan University, The Center for Innovative Higher Education, Korea — *Jan 2025*

Green Scholarship Recipient, Korea Forest Welfare Institute — *Oct 2024*

Scholarship Recipient, Buan-gun Forestry Cooperative — *Jul 2024*

Skills

Tools & Software

- Figma, Power BI, Python, SPSS, Gephi, Inventor, PowerPoint, Excel

Data Analysis

- Statistical Testing (One-way ANOVA, Two-way ANOVA, ANCOVA), Social Network Analysis (SNA)

UX Design

- User Interview Coding, Persona Development, Journey Mapping, Service Blueprinting, UI/UX Wireframing

Languages

- Korean (Native), English (Professional working proficiency), Japanese: Basic (conversational)