

LAM LEE

CURRICULUM VITAE

Big Data Convergence • HCI/UX • Hyundai Auto-Ever • Korea University
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Professional Summary

Lam Lee is a hybrid researcher–designer–product owner specializing in intelligent mobility systems, EV charging behavior modeling, LLM-based navigation, and human–AI interaction. Her work integrates UX design foundations with algorithmic thinking, data-driven experimentation, and the development of large-scale commercial navigation systems deployed across millions of vehicles. With over a decade of cross-domain experience—ranging from UX research in academic laboratories to leading EV navigation features at Hyundai Auto-Ever—she focuses on transforming complex mobility problems into scalable, human-centered technological solutions. Her expertise spans EV routing optimization, charging station reliability modeling, SOC curve analytics, POI recommendation systems, multimodal navigation experience design, LLM-driven intent understanding, and the systematic conversion of qualitative behavioral insights into algorithmic policy. She has authored or co-authored more than twenty patents across EV charging intelligence, autonomous driving personalization, charger recommendation algorithms, and smart vehicle interfaces. Lam is currently pursuing graduate studies in Big Data Convergence at Korea University, strengthening her research foundation in machine learning, NLP, data mining, and spatial analytics. Her long-term research mission is to advance next-generation EV and autonomous mobility systems that combine robust quantitative models, scalable data infrastructures, and deeply human-centered UX frameworks.

Research Interests

- **EV Charging Infrastructure Intelligence:** Model the spatial distribution, reliability, and operational behavior of charging stations to support high-quality charging recommendations and real-time decision systems.
- **SOC-Based Route Feasibility & Arrival State Prediction:** Develop models that estimate SOC at charger arrival and destination arrival across short- and long-distance routes using real-world driving and charging telemetry logs.
- **Trajectory-Based EV Behavior Modeling:** Analyze large-scale EV movement and behavioral patterns—including habitual commuting routes, unfamiliar trip behaviors, highway vs. arterial-road dynamics, route-deviation tendencies, speed profiles, POI proximity, and short- vs. long-distance travel characteristics—to understand real-world driver decision-making and enable more realistic, adaptive EV routing and charging algorithms.

- **Context-Aware Charging Preference Modeling:** Study how user-specific factors (charging safety margin, detour tolerance, trip purpose, temporal context) influence charging decisions, and incorporate these into recommender logic.
- **EV Routing Algorithms Using Infrastructure Constraints:** Design routing algorithms that integrate charger availability, infrastructure reliability, congestion signals, POI proximity, and multi-stop feasibility for realistic EV travel planning.
- **LLM-Based Multi-Intent Navigation for EV Use Cases:** Enable natural-language interpretation of charging-related requests by mapping intent to constraints such as SOC state, charger type, activity preferences, and contextual limitations.
- **Human-AI Interaction in EV Navigation:** Investigate how drivers interact with AI-based recommendation systems within EV contexts and optimize the design of multimodal interfaces for clarity and trust.
- **Spatial Analytics for Mobility Systems:** Apply geographic modeling and POI relational inference to understand charge demand patterns, location suitability, and mobility flow dynamics.

Education

Korea University, Seoul, South Korea

Master of Science, Big Data Convergence (Enrolled: 2024–Present)

Ewha Womans University, Seoul, South Korea

Master's Degree in Digital Media — UX Design Research Lab (2015)

Thesis: A Web-based Scenario Proposal for Online Collaboration between Designers and Developers in App Development.

Ewha Womans University, Seoul, South Korea

BFA in Fine Arts + Double Major in Media Interaction Design (2013)

Mission Scholarship Student Representative · Merit-based Scholar (2 terms)

Professional Appointments

Hyundai Auto-Ever, Product Specification Team

- Product Owner, Intelligent EV Navigation & Data-driven Feature Development (2023–Present)
- Navigation Service Designer, UX/Feature Planning (2020–2023)

Motiveflux, UXC Department (UX/Design Agency)

UX/UI Designer & Project Lead (2018–2020)

Seoul Design Foundation, Citizen Design Research Center, TBS(Taxi Bus Subway) Research Center

Senior Coordinator, Mobility Research (2016–2017)

Ewha Womans University, UX Research Lab

Full-time UX Researcher (2013–2015)

Major Projects

HYUNDAI AUTOEVER (2020–Present)

Product Owner · Navigation Service Designer (Vehicles)

EV Route Planner & Charging Intelligence Platform (2023–Present)

As part of Hyundai AutoEver's embedded navigation platform deployed across Hyundai and Kia vehicles in Korea, North America, and Europe, Lam Lee led the redesign of the company's EV Route Planner and charging intelligence architecture. During her tenure as Product Owner for this initiative, she transformed what had historically been a static, SOC-threshold model into an advanced charging intelligence system grounded in real-time behavioral analytics, spatial modeling, and multi-source EV telemetry. Her work drew from large-scale SOC variation logs, GPS traces, charger operation records, and user behavior patterns collected across diverse vehicle models and markets.

Through sustained cross-functional collaboration with data engineers, routing algorithm designers, UX teams, and map DB units, she developed an integrated logic capable of dynamically detecting malfunctioning chargers, unregistered or relocated stations, and early indicators of systemic outages by analyzing SOC gradients, charge–discharge inconsistencies, and vehicle dwell anomalies. She additionally designed user-specific SOC arrival policies that reflect past behavior—such as preferred SOC safety margins, detour tolerance, and historical abandonment tendencies—enabling personalized and context-aware charging decisions. Her leadership extended into constructing a unified data pipeline that converts raw SOC logs into actionable routing intelligence, allowing the navigation system to automatically deprioritize unreliable stations and adapt route recommendations in real time.

This system replaced a legacy approach that relied heavily on CP provider updates, achieving significantly faster and more accurate infrastructure reflection. Lee also designed and planned A/B experiments evaluating alternative charging policies, guiding the system toward a documented improvement from approximately 40% to nearly 70% in charging success outcomes. Her contribution established Hyundai AutoEver's first operational framework for EV reliability scoring, and the resulting models formed the analytic foundation for future LLM-based EV conversational agents and multiple OEM integrations. The project has been recognized internally as a pivotal advancement toward global EV competitiveness and is frequently referenced as a benchmark for data-driven EV routing innovation.

LLM-Based Multi-Intent Navigation for EV Charging and Activity Planning (2025–Present)

Building on the data and infrastructure established through the EV route optimization program, Lee initiated Hyundai AutoEver’s first large-scale effort to integrate LLM-based multi-intent understanding into in-vehicle navigation. Her observation that users frequently articulate composite goals—such as charging while eating, waiting, resting, or coordinating the charging duration with a planned stop—led her to propose a novel conceptual framework for EV-specific multi-intent parsing.

Under her direction, the project reframed navigation from command-based routing (“Navigate to X”) to dialog-driven planning that interprets the user’s implicit constraints (battery level, estimated arrival time, congestion), explicit intentions (desired activity, charger type, wait tolerance), and contextual variables (traffic, geographic region, availability of nearby POIs).

She outlined a relational POI dataset schema linking chargers with nearby amenities, enabling LLMs to reason about spatial proximity, operational hours, crowding patterns, and compatibility with user plans. Lee also produced a catalog of failure scenarios and evaluation criteria to standardize system validation, while mentoring engineers and designers on how to translate EV constraints into natural-language-compatible prompts.

Her work laid the organizational groundwork for conversational EV routing engines capable of reasoning over complex, real-world mobility scenarios—for example, “Show me a place where I can charge and also find a café within a 10-minute walk to work on my laptop and have brunch,” or “Not right now—guide me to a charger I can briefly stop by after my meeting but before dinner, and it must be one of my usual charging brands.” These capabilities advanced mobility platform from deterministic rule-based logic to flexible, context-aware, user-centered AI reasoning.

Global OEM-Led Navigation Platform Architecture (2024–Present)

Lam serves as the EV domain lead for a next-generation navigation platform developed for a global OEM, operating independently from Hyundai/Kia’s existing navigation stack. She led the redesign of the server and data-pipeline architecture, replacing fragmented OEM-specific structures with a unified EV data environment capable of supporting advanced analytics and product-level intelligence. This new architecture enabled the integration of newly engineered derived datasets—such as charger anomaly signals, reliability scores, time- and day-based congestion indicators, and scenario-driven dynamic station scoring—which had previously been impractical due to disparate server constraints.

She additionally incorporated relational POI datasets that model upstream and downstream POIs of each charging station, along with surrounding amenities relevant to EV charging behavior. These contextual datasets are not only used for analytical interpretation but also power multiple product-layer functions—including in-vehicle navigation UI behaviors, LLM-based smart charger filtering, and next-generation charging recommendation logic—allowing consistent intelligence across platforms and projects.

Lam synthesized functional requirements, regulatory constraints, and empirical user behavior patterns to establish the EV feature architecture, covering search, routing, charging recommendations, SOC monitoring, and POI contextual reasoning. The resulting EV module structure has been adopted as the baseline framework across all ongoing development streams for the OEM program.

Drive Course Recommendation System (2021)

Lam designed a route-centric drive course recommendation service that reframed navigation from destination arrival to experience-oriented driving. Instead of relying on POI-centric structures or distance-minimizing routing, she established a framework in which the route itself functions as curated content. She defined a metadata and data-modeling structure capable of representing thematic road experiences—such as coastal drives, forest routes, scenic viewpoints, seasonal landscapes, and night-view courses—by integrating visual, environmental, and contextual attributes along the path.

She designed the end-to-end service and UX flow, enabling users to preview a course's theme, duration, and key highlights through route-based cards and visual summaries optimized for in-vehicle environments. She conducted competitive benchmarking and derived a differentiated content curation and route recommendation strategy tailored for Hyundai AutoEver.

Lam also proposed an extensible architecture supporting OTA-based content updates, seasonal recommendations, and region-adaptive expansion—setting the foundation for a continuously evolving, experience-driven navigation service. The drive course recommendation service was successfully launched on Hyundai's in-vehicle navigation platform as a new experiential feature.

Indoor Parking Navigation (2020)

Lam designed Hyundai AutoEver's first indoor parking navigation system, defining its functional structure, indoor map schema, and UX flows in a completely zero-baseline environment with no preexisting indoor data or standards. She established core features—such as parking-space discovery, zone-level and multi-floor routing, and exit guidance—and designed the interaction model for transitioning between outdoor GPS navigation and indoor environments.

She collaborated with map engineering, development, and UX teams to guide indoor map acquisition, validate early prototypes, and ensure alignment between service logic, spatial structure, and user experience. The indoor parking navigation service launched on Hyundai's in-vehicle platform and continues to expand through OTA-based updates and broader indoor-facility coverage.

MOTIVEFLUX (2018–2020)

UX/UI Designer · Project Lead

Hyundai Motor Company — Online E-Commerce Platform (2019–2020)

Lam served as the UX lead and project-level service architect for Hyundai Motor Company's first end-to-end online vehicle e-commerce platform, a KRW 9B (≈ USD 6.7M) digital transformation initiative that shifted the company from a dealership-driven sales model to a fully online purchasing ecosystem. Overseeing UX strategy, service design, and cross-functional alignment, she structured the entire online buyer journey—spanning new and used vehicle browsing, option configuration, quotation, contracting, payment, delivery tracking, and final handover—and defined the foundational IA, state-transition logic, and service workflows required to digitize processes previously handled exclusively offline.

She designed policy-driven UX flows for contract creation and modification, cancellations and refunds, multi-method payments, financing, and identity/verification procedures. This included defining the data-matching architecture that links quotation and contract entities, designing electronic signature transactions using Kakao APIs, and specifying backend logic for contract and payment state transitions. Lam also architected vehicle discovery structures across new, used, and pre-order inventory, incorporating personalized option recommendations, comparative quotation flows, and real-time sales information.

Working closely with business, engineering, legal, and logistics teams, she produced detailed UX specifications, interaction models, API requirements, and scenario-based delivery workflows, including the integration of Glovis logistics APIs for map-based real-time vehicle tracking. She further established an extensible architecture supporting OTA updates, seasonal product strategies, and scalable market expansion. The platform launched as Hyundai's first fully operational online vehicle commerce system and continues to serve as the foundation for the company's long-term transition toward direct-to-consumer digital sales.

Samsung Research — Internal Enterprise Platform UX Guidelines (2020)

Lam led the creation of Samsung Research's unified UX guideline system for eighteen internal enterprise platforms spanning productivity tools, smart-factory monitoring dashboards, and collaborative communication systems. Operating in an environment where each platform had evolved with inconsistent design languages and interaction models, she established the first organization-wide UX standard, producing an English-based responsive and cross-device design system applicable to web, mobile, and native app environments.

She developed domain-specific guideline frameworks that addressed the distinct needs of productivity platforms, data-intensive monitoring dashboards, and communication systems, defining layout standards, component libraries, interaction rules, and scalable visual structures.

Her work enabled global adoption across Samsung's R&D centers by providing a comprehensive, system-level design reference that harmonized previously fragmented internal products.

In a parallel initiative, Lam redesigned the UX for Samsung's internal native chatbot application, restructuring the multi-bot interaction model and defining standardized conversation patterns—including user and bot utterance types, message structures, and UI behaviors such as lists, chips, cards, and voice interactions. She formalized the dialog flow architecture and established consistent collaboration processes for engineering and design teams, resulting in a more intuitive and coherent conversational experience for internal users.

LG U+ — Golf and AR Idol Live Applications (2019–2020)

Lee contributed to the redesign of the LG U+ Golf mobile app, focusing on real-time broadcast UX, VOD navigation, and event-based interaction patterns. She also designed advanced multi-screen AR features for the Idol Live platform, creating adaptive interfaces that respond to network conditions, display capabilities, and content types. Her design solutions improved content accessibility and multi-modal engagement for diverse user groups.

LG Electronics — Future Home Beauty Appliance UX Concept (2019)

Lam led UX research and concept development for LG Electronics' next-generation home beauty appliance initiative, a forward-looking project aimed at identifying products and services to commercialize within three years. She conducted trend analysis, competitive benchmarking, and lifestyle-driven field research to shift the organization from a technology-centered approach to a user-value-centered design perspective.

She developed five new product concepts and three connected app-service concepts—including personalized product recommendations and AI-assisted facial analysis—based on personas she created across diverse lifestyle and beauty-routine segments. Lam defined user scenarios, interaction principles, and representative concept screens, visualizing system-level workflows that integrate devices, companion apps, and future service ecosystems. Her work established an early UX strategy for LG's beauty-appliance portfolio and demonstrated a model for user-centered innovation within the organization.

SEOUL DESIGN FOUNDATION (2016–2017)

Senior Coordinator · Mobility Foresight · Exhibition Strategy

Seoul Smart Mobility 2030 Vision and Scenario Development

Lam played a central role in a city-wide mobility foresight initiative led by the Seoul Design Foundation in collaboration with the Seoul Metropolitan Government. The project reimaged the future of Seoul's transportation ecosystem for the year 2030 by integrating citizen experience, public value, and emerging mobility technologies such as C-ITS, V2X communication, shared mobility, and autonomous urban transit.

She led scenario development, trend analysis, and persona-based citizen journey modeling, producing a comprehensive narrative of multimodal “Seamless Mobility” across personal devices, public transportation, autonomous taxis, and next-generation micro-mobility. Lam coordinated cross-disciplinary collaboration among designers, policy teams, researchers, and public-sector stakeholders, ensuring alignment between human-centered urban policy and future mobility UX concepts.

A key part of her contribution involved directing the creation of a future mobility film scenario—later broadcast by TBS and featured at the Seoul Smart Mobility Exhibition at Dongdaemun Design Plaza (DDP). She also helped design speculative interfaces for intelligent traffic guidance, congestion visualizations, and cross-modal transit displays. To validate the scenarios, she conducted large-scale citizen perception studies involving 1,000 participants and facilitated expert workshops across transportation, ICT, and design disciplines. Her work was published in multiple Korean media outlets, including The Korea Times and Design Jungle, and remains a reference project illustrating Seoul’s vision for human-centered smart mobility.

Universal Subway Transfer Map Research (2017)

UX Researcher & Project Initiator

Lam contributed to the foundational research behind Seoul’s Universal Subway Transfer Map, a public-sector accessibility initiative later adopted by the Seoul Metropolitan Government and the Seoul Design Foundation. She conducted immersive wheelchair-based field studies across major transfer stations, documenting slopes, elevators, barriers, signage legibility, and real user pain points. Her early citizen-driven research helped shape the project’s transition into an official public program and informed the development of Seoul’s published Universal Subway Transfer Map (2017).

Her work was featured in media outlets including The Korea Times and in official Seoul Design Foundation publications, and it contributed to broader public awareness around mobility equity for transportation-disadvantaged citizens.

EWHA UX RESEARCH LAB (2013–2015)

Full-Time UX Researcher

Flexible Display Future UX Research (Government-funded R&D)

As part of a KEIT-funded industry-academia R&D program, Lam conducted foundational UX research on future interaction models for flexible displays and multi-device office environments. She led user behavior studies, persona development, and scenario planning to examine how foldable and rollable displays could transform collaboration, information flow, and spatial interaction within next-generation workplaces.

Lam proposed system-level UX concepts—including ecosystem architectures linking wall displays, smart tables, and portable flexible devices—and visualized interface models based

on adaptive, folding, and expanding interactions. Her research contributed to KEIT's final government R&D report, supported downstream industry applications in early flexible-display product development, and resulted in academic publications such as User Expectation toward Flexible Display Interfaces (KCI-registered journal, co-author).

LG Electronics — Smart Appliance & Smart Life UX Studies (2013)

Collaborating with LG Electronics, Lam explored emerging multimodal interaction methods—including voice, gesture, touch, and emotion-based feedback—and developed future UX concepts for smart-home appliances. She conducted user research and trend analysis to identify lifestyle-driven expectations across five major devices (washing machines, TVs, robot vacuums, smart ovens, and smartphones), producing personas and value maps that informed scenario-based concept development. Her work visualized next-generation interaction models for ambient computing environments and provided early UX direction later used by LG's internal product strategy teams.

Patents

Method for Updating EV Charging Station Data Using Vehicle Driving Logs and SOC Variations

KR/US/CN (Application No. TBD)

Role: First Inventor

Summary: Proposes a data-driven mechanism for updating EV charging station databases by analyzing real-world SOC variation patterns and driving logs. Enables automatic detection of unregistered, relocated, malfunctioning, or decommissioned chargers without relying solely on CP providers.

Optimal Charging Station Recommendation Method Based on EV Driving Information

KR (Application No. TBD)

Role: Co-Inventor

Summary: Introduces a recommendation logic that uses driving context, historical behavior, and energy consumption patterns to suggest the most efficient charging stations on a planned route.

Personalized Autonomous Driving Method Based on Driver Behavior and Surrounding Vehicle Types

KR 10-2024-0200803 / US & CN Pending

Role: Sole Inventor

Summary: A personalization framework for autonomous vehicles that adapts driving strategy depending on surrounding vehicle types (e.g., hazardous-material trucks) and the driver's habitual behavior, enabling safer and more customized driving decisions.

Method and System for Charging Station Recommendation

KR 10-2024-0122173 / CN 2024-11-03 / US Pending

Role: First Inventor

Summary: Defines logic and system architecture for recommending charging stations by integrating charger characteristics, route feasibility, surrounding POIs, and real-time context.

Method and System for Charging Station Recommendation

KR 10-2024-0002615 / US & CN Pending

Role: Sole Inventor

Summary: A prior yet distinct invention exploring algorithmic selection of optimal charging stations using multi-criteria evaluation, including distance, SOC thresholds, charger type, and expected wait times.

Charging Station Recommendation Method and Apparatus

KR 10-2024-0116426 / US & CN Pending

Role: Sole Inventor

Summary: Enhances charging recommendations by incorporating station reliability features and environmental or contextual conditions.

Method and System for Charging Station Recommendation

KR 10-2023-0193051 / US 2024-11-26 / DE 2024-12-03

Role: Sole Inventor

Summary: A multi-regional patent establishing a structured rule-set for global EV charging recommendation based on station compatibility, charger availability, and international privacy/communication constraints.

Driving Information Apparatus and Method for Providing Charging Guidance Information for EVs

KR 10-2023-0184066 / US 2024-12-02 / CN 2024-12-05

Role: Co-Inventor

Summary: Provides EV drivers with real-time charging guidance through enriched vehicle information displays, including charger distance, predicted arrival SOC, and energy consumption projections.

Driving Information Display Apparatus and Method for Providing EV Charging Station Information

KR 10-2023-0176536 / US 2024-11-21 / CN 2024-12-06

Role: Co-Inventor

Summary: A system for delivering organized, driver-friendly visualizations of charging station metadata, such as charger types, operational status, and nearby services.

Driving Information Display Apparatus and Method for Providing Charging Station Recommendations Considering Supply and Demand

KR 10-2023-0176556 / US 2024-12-03 / CN 2024-12-04

Role: First Inventor

Summary: Introduces demand-supply modeling to EV charger recommendation logic, allowing navigation systems to avoid congested stations during peak times.

Driving Information Display Apparatus and Method for Providing Personalized EV Driving Routes

KR 10-2023-0175379 / US 2024-11-26 / CN 2024-12-05

Role: First Inventor

Summary: A personalized routing model that tailors EV paths according to user-specific charging behavior, driving habits, and preferred road types.

Method and System for Controlling EV Charging

KR 10-2022-0191085 / US 2023-12-27 / CN 2023-12-22

Role: First Inventor

Summary: Defines a control system for optimizing EV charging by considering remaining driving distance, battery constraints, and user-defined objectives, including preventions for “cannot reach destination” situations.

Ventilation Control Method and System

KR 10-2022-0189644

Role: First Inventor

Summary: A human-centered environmental control model regulating ventilation levels using contextual cues, indoor air quality, and user patterns.

Device and Method for Recommending EV Charging Stations

KR 10-2022-0131748 / US 2023-04-05 / CN 2023-04-20

Role: Sole Inventor

Summary: Early framework integrating weather, temperature, and environmental conditions into charging recommendation, foundational for later EV intelligence systems.

Publications & Academic Presentations

Chung, S.-E., Yoon, Y.-S., & Lee, Lam (2016).

“User Expectation Experience of Flexible Display Interface.”

Journal of the Convergence Design Association, vol. 15, no. 2, pp. 301–318.

- Investigates user perceptual models and interaction expectations for flexible display form factors, contributing to early HCI frameworks for deformable devices.

Lee, Lam., & Ryoo, H.-Y. (2014).

“Bend Gesture Interaction for the Flexible Display in Users’ Point of View – Focused on Next Generation Smart Devices.”

Journal of the Korean Society of Digital Design, vol. 14, no. 4, pp. 605–617.

- Introduces gesture-based interaction models tailored to bendable display technologies, proposing UX patterns grounded in ergonomic studies.

Lee, Lam., & Ryoo, H.-Y. (2014).

“A Proposal on Foreign Language Learning Application in Educational Environment as Response to the Networked Society.”

Proceedings of HCI Korea 2014, Poster Session, Korean HCI Society, pp. 733–737.

- Explores new interaction metaphors and content structures for digital language learning, leveraging social and networked environments.

Lee, Lam., Kim, Y., & Ryoo, H.-Y. (2014).

“A Study on Improving Collaboration Work for Service Planning, Development and Design Process among Planner, Designer and Developer – Based on Analysis of Online Collaboration Tools.”

Proceedings of HCI Korea 2014, Oral Presentation, pp. 365–368.

- Analyzes communication gaps in cross-functional digital product teams and proposes workflow improvements for designer–developer collaboration.

Lee, Lam (2016).

“Scenario Design for Future Public Transit in Seoul Focused on Mass-Transit-Centric Mobility.”

Presented at the *2016 Fall International Conference of the Korean Society of Design Science*, Bucheon University, Korea.

- Presents foresight research and scenario-based UX modeling for multimodal public transit systems in future Seoul.

Lee, Lam (2015).

“A Web-based Scenario Proposal for Online Collaboration between Designers and Developers in App Development.”

Master’s Thesis, Graduate School of Digital Media, Ewha Womans University, Seoul.

- Examines collaboration-based UX processes and proposes a web-based ecosystem for designer–developer joint ideation and prototyping.

Awards & Honors

Special Prize — Korea Foundation for the Advancement of Science & Creativity (2016)

Awarded at the UNITHON University Hackathon for developing a voice-interactive smart flowerpot combining real-time environmental sensing and UX visualization.

Technical Award — UNITHON University Hackathon (2016)

Recognized for creating a facial-emotion analysis diary app designed to reduce cognitive stress by reflecting daily mood changes.

Grand Prize — Gangwon Public Data App Challenge (2016)

Led end-to-end planning and UX design of a tourism information app using geo-fencing and beacon signals, integrating location intelligence with public data assets.

Outstanding Monitor — Statistics Korea SGIS Beta Testing Program (2015)

Selected as one of the top contributors providing usability evaluations and improvements for the SGIS national geographic information platform.

1st Place — National Statistics App Challenge by Statistics Korea (2014)

Developed “Neighborhood Explorer,” a neighborhood recommendation and visualization tool later adopted into the official SGIS platform as “Neighborhood Analysis Map.”

Professional Service

Judge & Mentor — Hyundai AutoEver Barrier-Free App Competition (2025)

Served as a judge and long-term mentor for 8 finalist teams, evaluating accessibility-focused service proposals and providing UX, strategy, and go-to-market guidance across a 6-month incubation period. Supported by the Ministry of Health and Welfare.

External Reviewer — Statistics Korea Citizen Design Group (2018–2019)

Appointed as a recognized evaluator for projects across multiple government departments, reviewing proposals for accessibility enhancement, employment statistics platforms, and public data systems.

Contributor — MUUI & Seoul Design Foundation Accessibility Projects

Participated in foundational accessibility research initiatives and contributed to video script development and scenario modeling for Seoul's Smart Mobility Vision initiative.

Skills

Research & Analytical Methods

- Behavioral modeling · SOC pattern analysis
- Spatial analytics (QGIS, PostGIS)
- Experiment design · A/B test analysis
- Human–AI interaction evaluation
- Data pipeline design for mobility systems

Artificial Intelligence & Mobility Algorithms

- EV routing optimization
- Charging station reliability scoring
- Recommender system logic design
- LLM prompt engineering for multi-intent navigation
- Charger–POI relational modeling

Product & UX Competencies

- End-to-end product strategy
- Feature architecture design
- UX research · persona modeling
- Service blueprint and flow design
- Interaction system design for in-vehicle HMI

Software & Tools

- Python · SQL · Tableau
- QGIS
- Figma
- Jira · Confluence
- Git

Certifications

- Project Management Professional (PMP) — PMI, 2025
- Advanced Data Analytics Semi-Professional (ADsP) — 2025
- Certified ScrumMaster (CSM) — Scrum Alliance, 2024
- Google Data Analytics Professional Certificate — 2024
- ISTQB Foundation Certificate in Software Testing — 2018