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Seong Hee Lee

Education

08/2019 - 12/2022 **B.S. Information Science, Cornell University**, *3.98/4.00 Major GPA, 3.96 overall*, Concentration : Data Science, Interactive Technology,

Cornell Data Science, Ann S. and Robert Morley Grant, Magna Cumm Laude, Dean's List (2019-2022)

Work Experience

01/2023 - Current **Safe AI Lab CMU X Microsoft**, *Microsoft Research*, ML Researcher
- Researching Interpertability and Robustness in Visual Question Answering (VQA) Models, NeurIPS 2023
- Evaluation of MultiSum dataset on Video Summarization, ICML 2023

09/2022 - 12/22 **MOTIONAL**, *Hyundai Autonomous Vehicles - Lyft & Uber*, Robotics Research Engineer
- **Authored 2 papers to ACM/IEEE Human Robot Interaction 2023**
- Research on identification of Autonomous Vehicle Lane Change key parameters and metrics in dynamic road environments interacting with other agents.
- **Patent filing on Autonomous Vehicle First Responder Interaction Protocols**

05/2021 - 08/2021 **HYUNDAI Motor Group X KAIST Interaction Lab**, *Prof. Juho Kim*, Research Engineer
- Joint Research Hyundai Motor Company and KAIST University on Autonomous Vehicles (IONIC Q 5 Robotaxi) developing prototypes for in-vehicle creative media experiences for Vehicle to Vehicle (V2V) Interaction scenarios.

05/2021 - 08/2021 **ETERNAL TESTIMONY**, *Creative Computing Group, Government Funded Project*, Data Analyst, ML Engineer
- Managed the Hologram Conversational AI Question Answering System for an interactive conversational exhibit of the former Korean Comfort Women. National Sponsored Program by the Korean Ministry of Gender Equality and Family

11/2020 - 02/2021 **COCHL. & MERCEDES BENZ**, *Software Engineer*
- Developed software prototypes for non-verbal AI integrated into Mercedes Benz MBUX cars.
- Developed Cochl AI performance report interfaces for the developer-side API

Research Experience

05/2022 - 08/2022 **Berkman Klein Center, Library Innovation Lab (LIL), Harvard University**, *Software Engineer & HCI Researcher*
- Conducted study on Digital Reading Experiences of Law Students. First author to paper **submitted to IEEE/ACM Human Computer Interaction (CHI) 2023 Case Studies**
- Improved digital reading experience on H2O, an open-casebook platform by creating software for internal search, dynamic annotation, page navigation.

02/2021 - 05/2021 **Social Media Lab, Cornell University**,
, Research Assistant, Prof. Natalie Bazarova
- o NSF funded project on identification of Prosocial Objectionable comments on social media.
- o Developed NLP models for identifying objectionable comments on Youtube using distributed semantics and deep learning classifier approaches.

09/2021 - 05/2022 **Remote Critique Lab, Cornell University**,
, Research Assistant, Prof. Francois Guimbreitere
- o Conducted research on Telepresence Robots with head movement and its effects on Presence and RoboMorphism.
- o Developed software for translating Tobii Eyetracker data into robotic movement.

02/2021 - 05/2021 **Visual Media Lab, KAIST University**,
, Research Assistant, Prof. JunYong Noh
- o Developed Algorithms for StyleGAN – high resolution 3D faces by combining StyleRig and 3DMM technology
- o Combined the 3DMM- 3D Morphable Face Model code into StyleGAN by writing code based on the original 3DMM paper in Tensorflow & Pytorch

02/2020 - Current **Cornell Data Science**,
, Insights Team
- o Gave lectures on D3.js, visualization software for INFO 1998 Intro to Machine Learning, a student-led course open to everyone on campus.
- o Created MyCourseIndex a Search Engine for course materials - worked primarily on question-answering NLP features.
- o Conducted Research on Data Visualizations for Reducing Food Waste, by creating data visualizations. (Awarded Ann S and Robert Morley Grant , CURJ 2023)

Publications and Posters

HRI 2023 (Accepted) **Seonghee.Lee**, Malte Jung, Nicholas Britten, Avarm Block, Aryman Pandya, Paul Schmitt, 'Balancing Legibility and Aggressiveness in Autonomous Vehicle Lane Change', 2023 18th ACM/IEEE International Conference on Human-Robot Interaction (HRI)

HRI 2023 (Accepted) **Seonghee Lee**, Malte Jung, Vaidehi Patil, Avarm Block, Paul Schmitt, 'Autonomous Vehicle Interaction Protocols for First Responders", 2023 18th ACM/IEEE International Conference on Human-Robot Interaction (HRI)

CHI 2023 (Accepted) **Seonghee Lee**, Jack Cushman, Catherine Brobston, Harmony Eidolon, H2O: Open casebook, Digital Reading Experiences of Law Students, 2023 18th ACM/IEEE International Conference on Human-Computer Interaction (CHI)

HCII 2023 (Accepted) **Seonghee Lee**, Daniela Rodriguez-Chavez, Exploring the Effects of Personal Impact Communicated Through Eco-Feedback Technology for Reducing Food Waste, Human Computer Interaction International Conference, HCII 2023

HRI 2022 **Seonghee Lee**, Jin Ryu and Jessie Y Kim, IEUM: Bridging Transportation to Humans, 2022 17th ACM/IEEE International Conference on Human-Robot Interaction (HRI)

Awards & Grants

03/2022 **Best Student Paper- Student Design Competition** *IEEE/ACM Human Robot Interaction (HRI) 2022*

11/2021 **Ann S. and Robert R. Morley Research Grant $1000** *Cornell University*

08/2019-12/2022 **Dean's List of Academic Excellence** *Cornell University*

Patent

12/2022 Paul Schimtt, Avaram Block, Seonghee Lee **Autonomous Vehicle Protected Park Communication Protocol** (Filing)

Invited Talks

07/2022 **Harvard Library Innovation Lab (LIL Talks)** Human Autonomous Vehicle Interaction

Teaching and Mentorship

02/2020 - Current **Inspirit AI Creators Instructor - Stanford & MIT**

- Instructed K-12 students on projects such as Self-Driving Cars, Chatbots for Mental Health, and Interactive Games using Computer Vision. Gave lectures on Algorithmic Fairness, Human AV Interaction, and Data Science.
- Mentored student projects using Scratch, Python, and Teachable Machine.

08/2022 - Current **CS/INFO 3300 Data Driven Web Applications - Teaching Assistant**

- Teaching Assistant for CS 3300, a course that teaches practical skills for building web pages with data mining algorithms and visualization design theory.
- Office Hours assisting students on using D3 Javascript library to create interactive web applications

08/2021 - 05/2022 **CS/INFO 2950 Introduction to Data Science - Teaching Assistant**

- Office Hours for INFO 2950 answered questions from students on discrete probability, Bayesian methods, graph theory, power law distributions, Markov models, and hidden Markov models.
- Mentored projects on applications from various areas of information science such as the structure of the web, genomics, social networks, natural language processing, and signal processing.