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Jessie (Seong Hee) Lee

Education

08/2023 - **M.S. Computer Science, Stanford University**, *Incoming Student Fall 2023*,

08/2019 - 12/2022 **B.S. Information Science, Cornell University**, *Magna Cumm Laude*,
, Cornell Data Science, Ann S. and Robert Morley Undergraduate Research Grant

Awards & Grants

03/2022 **Best Student Paper - Human Robot Interaction** *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*

Research Experience

01/2023 - Current **Safe AI Lab CMU X Microsoft**, *Microsoft Research*, Research Intern
- Evaluation of MultiSum dataset on state-of-the-art Video Summarization ML Models such as VSUMM and Keyframe Extraction, ICML 2023
- Researched and tested code for different evaluation metrics for evaluating the performance of Video Summarization Models.

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

02/2021 - 05/2021 **Social Media Lab, Cornell University**,
, Research Intern, Prof. Natalie Bazarova
- NSF funded project on identification of Prosocial Objectionable comments on social media.
- Developed Text Classification Models for identifying objectionable comments on Youtube using distributed semantics and deep learning classifiers.
- Researched methods to different types of objectionable comment data for training the model.

02/2021 - 05/2021 **Visual Media Lab, KAIST University**,
, Research Intern, Prof. JunYong Noh
- Developed Algorithms for StyleGAN – high resolution 3D faces by combining StyleRig and 3DMM technology
- 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
- Gave lectures on 1998 Intro to Machine Learning, a student-led course open to everyone on campus.
- Created MyCourseIndex a Search Engine for course materials - worked primarily on question-answering NLP features.
- Conducted Research on self-tracking sustainable eco-technology (Awarded Ann S and Robert Morley Grant, Accepted to HCII 2023)

Work Experience

05/2022 - 08/2022 **Berkman Klein Center, Library Innovation Lab (LIL), Harvard University**, *Software Engineer & Research Intern*
- 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.

09/2022 - 12/22 **MOTIONAL**, *Autonomous Vehicles*, Robotics Research Engineer
- **First 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**, *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.

11/2020 - 02/2021 **COCHL AI & 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

Publications and Posters

ICML 2023 (InSubmission) MultiSum: A Large Dataset for Multimodal Video Temporal Segmentation and Summarization, Jielin Qiu, Claire Jin, **Seonghee Lee**, Ding Zhao, 2023 International Conference on Machine Learning

HRI 2023 Coming In! Communicating Lane Change Intent in Autonomous Vehicles, **Seonghee Lee**, Malte Jung, Nicholas Britten, Avarm Block, Aryman Pandya, Paul Schmitt, 2023 18th ACM/IEEE International Conference on Human-Robot Interaction (HRI)

HRI 2023 Safe to Approach: Insights on Autonomous Vehicle Interaction Protocols with First Responders, **Seonghee Lee**, Malte Jung, Vaidehi Patil, Avarm Block, Paul Schmitt, 2023 18th ACM/IEEE International Conference on Human-Robot Interaction (HRI)

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

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

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

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**

- Created coursework and led lectures for Advanced High School Students on Machine Learning Topics such as Language Models, Neural Networks, and Computer Vision Algorithms.
- Instructed 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 Pytorch, HuggingFace, Tensorflow, and Deep Learning Concepts.

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.

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.