Hyunwook Kim

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EDUCATION	**University of South Carolina** *Master of Science in Computer Science* *January 2023 – May 2024 (Expected)* **Cumulative GPA**: 3.80/4.00 **Coursework**: Analysis of Algorithms, Computer Architecture, Database System Design, Compiler Construction, Network Systems Security, Advanced Topics in Neuro-symbolic AI, Computing in Statistics, Statistical Methods1, Data Structures & Algorithms (C++), Scientific Applications Programming (Python), Computer Operating Systems **University of South Carolina** *Doctor of Philosophy in English* *August 2019 – May 2024 (Expected)* **Cumulative GPA**: 4.00/4.00 **Chonnam National University, Gwangju, Republic of Korea** *Bachelor of Arts and Master of Arts in English* *March 2014 – August 2019* • Honors Scholarship (Full Tuition Waiver), 2014 – 18 (during 10 semesters) • CORE (College of Humanities' Research and Education) Scholarship (during 10 semesters) • National Humanities and Social Sciences Undergraduate Scholarship, Korea Student Aid Foundation (KOSAF), 2016
EXPERIENCE	**Artificial Intelligence Institute of the University of South Carolina (AIISC)** *Research Collaborator* *January 2023 – Present* ***"Explainable Neuro-Symbolic Model for Ingredient Substitutions"*** • Extracted and curated structured datasets in JSON format from food-centric websites like FoodSubs, capturing essential contextual details, including nutritional data, and cooking scenarios. • Engineered a user-centric recommendation algorithm anchored by an ingredient substitutes knowledge graph, developed through an end-to-end data pipeline from web scraping to preprocessing. • Integrated structured data and ontology-based symbolic rules into a neuro-symbolic AI model, utilizing a unified dataset for training, thereby facilitating symbolic reasoning alongside numerical analysis in decision-making. ***"Full-Stack: Student Management for Piano Studios"*** • Experienced in developing back-end solutions including a robust user management system for both admin. and users. • Proficient in front-end design, creating user-friendly interfaces for homework submission, status tracking, home, and login pages, as well as assignment and calendar pages. • Leveraged MongoDB to efficiently manage and store data in the database layer. **Republic of Korea Marine Corps, 1st Marine Division, Pohang, Republic of Korea** *Staff Sergeant* *March 2011 – December 2012* • Proficient in Databases Management for a fleet of approximately 100 military vehicles, handling crucial data including vehicle identification numbers, manufacturing years, mileage, and service records. • Recipient of the Best Marine Award in 2011, recognized for outstanding performance and dedication.
PROJECT	**Analyzing Motor Vehicle Collisions in NYC with Streamlit** *September 2023* • Analyzed NYC collision datasets to understand patterns in location and time of collisions • Experienced in data manipulation with Python, Pandas, and NumPy, with a proven track record of delivering actionable insights from complex datasets. • Proficient in building interactive web applications using Streamlit and Python, with a focus on creating user-friendly data visualization tools. • Heroku Link: https://nyccollision-4ce6697204f6.herokuapp.com/

	Emotion AI: FaciaI Key-Points Detection *September 2023* • Developed a deep learning model to detect facial key points of a human face. • Used ResNet to get a accuracy above 70% on facial data. • Performed Image augmentation to increase the size of available data. • Heroku Link: https://facialdetection-4241de6c81a8.herokuapp.com/ **Airlines Sentiment Analysis** *September 2023* • Conducted Sentiment Analysis on user data for six airlines, categorizing sentiments as positive, negative, or neutral. • Developed interactive visualizations including bar-charts, pie-charts, word clouds, and a tweet map for insightful data representation. • Conducted comparative analysis of user tweet data across six airlines. • Heroku Link: https://airlinesentiment-c48712c79068.herokuapp.com/ **Front-End: Clone Coding Project** *March 2023 – April 2023* • Proficiently employed Bootstrap and Bootstrap Grid components and classes. • Designed a responsive webpage through effective utilization of media queries. • Enhanced front-end development expertise with a primary focus on HTML and CSS. • GitHub Link: https://github.com/hyunwookkim418/Front-End-Clone_Coding/
CERTIFICATE	"Emotion AI: Facial Key-points Detection," Coursera (September 2023) "Build a Data Science Web App with Streamlit and Python," Coursera (September 2023) AWS Certified Cloud Practitioner Certification (August 2023) "NLP - Natural Language Processing with Python," Udemy (August 2023) "Machine Learning Specialization," Coursera (July 2023) "Python Data Structures," Coursera (December 2022) "Programming for Everybody (Getting Started with Python)," Coursera (October 2022) Technology for Online Teaching and Learning Certification, University of South Carolina (Fall 2022)
PUBLICATION	Kim, Hyunwook & Baek, Seunghyun. (*Ready to Submit*). Comparison of Emotional Vocabulary in Korean War Novels between First- and Second-Generation Korean American Authors: Sentiment Analysis Using R. *Studies in Foreign Language Education*.
TECHNOLOGY	**Database**: SQL Server, Amazon Dynamo DB, MongoDB **Deep Learning**: TensorFlow, PyTorch **Cloud Engineering**: AWS **Big Data Engineering:** Spark (PySpark), Kafka **Programing Language**: C++, Python, JavaScript, R, SAS **Other**: HTML, CSS, Linux, Windows, MacOS, MS Office
LEADERSHIP	**Transitions Homeless Center, Columbia, South Carolina** *Volunteer Leader* *October 2021 – September 2022* • Prepared for each breakfast, lunch, and dinner shift, helping serve meals to a range of 150 to 250 individuals experiencing homelessness in Columbia, South Carolina. **The Backpack Project of Columbia for Homeless People** *Project Leader* *January 2021 – May 2022* • Designed and distributed 500 backpacks to local homeless individuals, each filled with essential items such as blankets, underwear, socks, and toilet paper.