Hyunwook Kim

| 1600 Park Circle, Columbia, South Carolina | +1.803.365.3149 |
| Email | LinkedIn | GitHub |

PROFILE

Hyunwook Kim is a detail-oriented and innovative data engineer, possessing a solid foundation in statistical analysis, programming, and machine learning. He is passionate about leveraging engineering problem-solving skills and analytical abilities to drive data-driven decision-making and contribute to the success of a forward-thinking organization.

- Big Data Engineering
- Artificial Intelligence
- Cyber Security
- Machine Learning
- Cloud Engineering
- Deep Learning

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, HTML, CSS, R, SAS
Other: Linux, Windows, MacOS, MS Office

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.
- Spearheaded the development of an explainable neuro-symbolic model, leveraging Ingredient Substitutes Knowledge Graphs for optimal and transparent recommendations.

"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.

- Contributed to a range of AI and full-stack development projects, including "Explainable Neuro-symbolic Model for Ingredient Substitutions." Details are found in the "PROJECT" section.

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

Real-Time Big Data Engineering for Sentiment Analysis   *September 2023 – Present*
- Designed and implemented a real-time data pipeline for sentiment analysis using Data technologies and engineered a scalable solution for capturing real-time Twitter feeds using the Twitter Developer API.
- Implemented KAFKA as a messaging system to efficiently process and transmit data streams.
- Developed a robust data ingestion process to save NoSQL data into MongoDB for storage and analysis, processing raw data by utilizing PySpark to enhance data quality and modeling.
- Employed sentiment analysis algorithms to extract sentiment insights from social media data.

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

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*.

LEADERSHIP

Transitions Homeless Center, Columbia, South Carolina
Volunteer Leader   *October 2021 – September 2022*
- Assisted with Meal Services for Local Homeless Individuals: We 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.
- Provided Dinner Boxed and Drinks at the Center: I distributed dinner boxes and beverages to the homeless individuals at the Transitions Homeless Center.
- Engaged with a Diverse Community: I interacted and communicated with individuals from diverse backgrounds, including varying ethnicities and economic statuses.

The Backpack Project of Columbia for Homeless People
Project Leader   *January 2021 – May 2022*
- Produced and Distributed 500 Backpacks: We designed and provided 500 backpacks, each containing essential items like blankets, underwear, socks, and toilet paper.
- Enhanced Strategic Diversity Leadership Skills: Through my working with people from various backgrounds, I developed and strengthened my abilities in strategic diversity leadership.