Joowon Kim

5615 Upper Creek Ct, Suwanee, GA 30024 ⋄ (678)-938-4939
joowonk2@illinois.edu ⋄ github.com/jookimmy ⋄ www.joowonkim.me

EDUCATION

University of Illinois at Urbana-Champaign *December 2021*
Bachelor of Science, Computer Science and Economics *GPA: 3.4/4.0*

SKILLS

Skills: Python, Ruby, C/C++, Javascript, Java, Numerical Analysis, Machine Learning, Data Analytics, Backend Engineering
Technologies: PyTorch, sci-kit learn, Pandas, NumPy, Django, SQL, Linux, AWS, Git, Jupyter Notebook, *.js

EXPERIENCE

Software Engineering Intern, *Illumio* *May 2021 – August 2021*
- ⇒ Created an ETL pipeline in Ruby for transporting vulnerability API data from a customer to the policy compute engine
- ⇒ Developed scalable data module that serves corporations with up to 500,000+ workloads and 1,000,000+ vulnerabilities
- ⇒ Built product from scratch, and is being provided to customers as an automated tool to facilitate crucial data transfer

Software Engineering Intern, *Pure Storage* *May 2020 – August 2020*
- ⇒ Constructed data engineering module in Python to convert low-density data to high-density in FlashArrays
- ⇒ Designed new compression algorithm squashing real-time data stream from Pure Storage warehouses and SQL tables
- ⇒ Achieved 100% lossless compression and effectively reduced up to 97% on 10,000,000+ rows of information
- ⇒ Reported as primary author for the algorithm, which will outline invention disclosure and patent application

Undergraduate Researcher, *ECE Department* *September 2020 – December 2020*
- ⇒ Analyzed cognitive-related data in PyTorch and building related machine learning models in Sanmi Koyejo's lab
- ⇒ Researched relations between cognitive intelligence and brain measures using hierarchical mixture-of-experts
- ⇒ Ran various linear models to test for feature relations with test scores and applying knowledge to the HMoE model

Data Science Intern, *State Farm* *August 2019 – December 2019*
- ⇒ Congregated different claims processes based on agglomerative clustering, vector distance, shingling
- ⇒ Solo-built entire LDA-simulation pipeline in Python for team to utilize, improving future research efficiency
- ⇒ Integrated various clustering methods to optimize runtime for >18GB files and ~400 different vector combinations

Software Engineering Intern, *State Farm* *May 2019 – August 2019*
- ⇒ Constructed full stack data analytics portal using Javascript, Python, Django, PostgreSQL, JSON, and pandas
- ⇒ Developed API for information analysis in the backend, increasing data search functionality by 100%
- ⇒ Redesigned information storage in PostgreSQL database to improve analysis for ~1000 data-layered maps

PROJECTS

NBA Twitter News Classifier *January 2021 – Present*
- ⇒ Built a multi-class text classification model using tweepy and sci-kit learn on Tweets from major NBA reporters
- ⇒ Used L2 penalty and ridge regression on tf-idf vectors to classify text up to 7 different categories at 85%+ accuracy

NCAA March Madness Prediction *August 2020 – Present*
- ⇒ Utilizing PyTorch, pandas, and NumPy to predict the best performers for the 2020 NCAA Tournament
- ⇒ Implementing multi-layered classification neural network using Kaggle data to identify the result of a matchup

BriovaRx Patient Center App *February 2019*
- ⇒ Developed a full stack web-app using HTML, CSS, and Javascript for patient treatment at HackIllinois 2019
- ⇒ Integrated a mobile application development framework called Apache Cordova for seamless interactions

MISCELLANEOUS

Placed 5th Internationally for HOSA Creative Problem-Solving event at ILC
Placed 1st Nationally for Academic Games League of America in On-Sets event