

Joowon Kim

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EDUCATION

University of Illinois at Urbana-Champaign
Bachelor of Science, Computer Science and Economics

May 2021
GPA: 3.4/4.0

SKILLS

Skills: Python, C/C++, Javascript, Java, Numerical Analysis, Machine Learning, Full Stack Engineering, Backend Engineering
Technologies: PyTorch, Pandas, NumPy, Django, SQL, Linux, AWS, Git, Jupyter Notebook, *.js
Coursework: Algorithms and Models of Computation, Linear Algebra, Regression Analysis, Statistics, Computer Architecture, Data Science, Machine Learning, Artificial Intelligence, Econometrics, Systems Programming

EXPERIENCE

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 – Present*

- ⇒ Analyzing cognitive-related data in PyTorch and building related machine learning models in Sanmi Koyejo's lab
- ⇒ Researching relations between cognitive intelligence and brain measures using hierarchical mixture-of-experts
- ⇒ Improving expectation-maximization for MoE-layer's optimal expert to create more robust predictions of data samples

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

Director of Project Management, CS 196 at UIUC *August 2018 – December 2019*

- ⇒ Directed all 35 project managers for the 210 computer science students in the freshman honors course for CS
- ⇒ Installed new and rigid grading system and hiring/interview methods, while keeping an effective 1:7 student-PM ratio

PROJECTS

NCAA March Madness Prediction *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

AWS Email Bot *July 2019*

- ⇒ Built a Python script using libraries like smtplib to develop a subscription-type email bot on AWS EC2 instance
- ⇒ Implemented structural methods supporting constant runtime, making user data processing easier and more efficient

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
- ⇒ Placed 2nd for Optum's Hack challenge, potentially used for proof of concept to treat thousands of patients

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

Love playing basketball or golf, losing in fantasy sports, going to social events, and gaming