

# 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++, Javascript, Statistics, Numerical Analysis, Machine Learning, Data Science, Full Stack Development

**Technologies:** PyTorch, Pandas, NumPy, Django, PostgreSQL, Linux, AWS, Git, Jupyter Notebook

**Coursework:** Data Structures and Algorithms, Regression Analysis, Statistics, Computer Architecture, Data Science, Linear Algebra, Artificial Intelligence, Algorithms and Models of Computation, Econometrics, Applied Machine Learning

## EXPERIENCE

### Pure Storage

May 2020 – August 2020

Software Engineering Intern

- Constructed data engineering module in Python to convert low-density data to high-density in FlashArrays
- Designed a new row compression algorithm that squashes real-time data stream from Pure Storage hardware
- Achieves 100% lossless compression and effectively reduces up to 97% on 10,000,000+ rows of information
- Reported an invention disclosure for the algorithm and will be considered for a patent

### State Farm

Data Science Intern

August 2019 – December 2019

- 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
- Congregated different claims processes based on agglomerative clustering, vector distance, shingling

### State Farm

Software Engineering Intern

May 2019 – August 2019

- Constructed corporate data analytics portal using Javascript, Python, Django, PostgreSQL, JSON, and pandas
- Developed analysis tool in software, increasing the efficiency of data search functionality by 100%
- Redesigned information storage in PostgreSQL database to improve analysis for ~1000 data-layered maps

### CS 196 at UIUC

Director of Project Management

August 2018 – December 2019

- Directing all 35 project managers for the 210 computer science students in the CS 196 Honors course
- 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

### BrioRx Patient Center Application

February 2019

- Placed Top 3 for UnitedHealth Group's Challenge at HackIllinois 2019
- A proof of concept to be potentially used for self-diagnosis of 1000s of chronically diseased patients.

## MISCELLANEOUS

Placed 5<sup>th</sup> Internationally for HOSA Creative Problem-Solving event at ILC

Placed 1<sup>st</sup> 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