

# Joowon Kim

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## EDUCATION

### University of Illinois at Urbana-Champaign

Bachelor of Science, Computer Science and Economics  
Minor, Mathematics

May 2021  
GPA: 3.4/4.0

## SKILLS

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

**Languages:** Python, C++, Javascript, Java

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

## EXPERIENCE

### State Farm

Data Science Intern (Part-Time)

August 2019 – December 2019

- Optimizing clustering algorithms in Jupyter Notebook, using Python and the sklearn library
- Exploring various methods to optimize runtime for >18GB files and ~400 different vector combinations
- Congregating different claims processes based on agglomerative clustering, vector distance, shingling
- Learning new industry-standard techniques such as Latent Dirichlet Allocation and Bayesian modeling

### 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
- 2<sup>nd</sup> biggest contributor to the application, to be used by 6,000+ State Farm executives to make corporate decisions

### 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
- Managing as scrum master using skills such as Python, Java, machine learning and front-end development
- Installed new and rigid grading system and hiring/interview methods, while keeping an effective 1:7 student-PM ratio

## PROJECTS

### NBA Progress Prediction

Present

- Utilizing PyTorch, keras, pandas, NumPy, and basketball API to predict the best performers for the 2020 NBA Season
- Implementing linear-regression neural network using training data from past years to identify player progression
- Exploring ways to integrate non-linear regression within deep neural network to acquire more accurate predictions

### AWS Email Bot

July 2019

- Built a Python script using libraries such as schedule and smtplib to develop a subscription-type email bot
- Running the script continuously for 100 days by implementing the Amazon Web Services' EC2 instance
- Implemented structural methods supporting constant runtime, making user data processing easier and more efficient

### BriovaRx Patient Center Application

February 2019

- Placed Top 3 for UnitedHealth Group's Challenge at HackIllinois 2019
- Designed using Apache Cordova and Javascript, with separate p2p data channel video chat demo with WebRTC
- A proof of concept to be potentially used for self-diagnosis of 1000s of chronically diseased patients.

## INTERESTS AND HOBBIES

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