Jacob **Park**

Software Engineer · Computer Science Major

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Education

Vanderbilt University   *Nashville, TN*
B.S. in Computer Science   *August. 2016 - Exp. May. 2020*

Work Experience

Vanderbilt Institute of Software Integrated Systems   *Nashville, TN*
Research Intern   *May. 2019 - July. 2019*
- Implemented machine learning algorithms (HAC, HDBSCAN, PCA, etc.) with Python to spatiotemporally analyze the traffic incident factors and to further predict incidents in Nashville.
- Developed a 3D data visualization model of aggregated data using kepler.gl to visualize traffic accidents in Nashville.

Vanderbilt Department of Civil and Environmental Engineering   *Nashville, TN*
Undergraduate Research Assistant   *Mar. 2019 - Present*
- Designed and implemented a web application to provide a platform for stakeholders to evaluate a variety of sustainable and economically feasible options for managing municipal solid waste using Vue.js and Firebase.
- Implemented a matrix for simplified LCA of waste management with AHP to analyze stakeholders' pairwise comparisons.
- Developed Python scripts to scrape data for real-time power outage data and affected customers.

Projects

Decision Together   *Web Development*
JavaScript   *June. 2019*
- Developed a web application to evaluate the preferences of criteria and alternatives for MSW management systems to implement in Middle Tennessee.
- Analyzes stakeholders' preferences and consistencies by implementing comparison matrices and calculating principal eigenvectors.
- Implemented front-end with Vue.js, and back-end with Firebase.

FEH-api   *REST API*
Python   *April. 2019*
- Developed a Python script using Scrapy-Splash to scrape https://fireemblem.gamepress.gg/ for Fire Emblem Heroes units' information.
- Implemented REST API with user authorization by incorporating Flask-RESTful and SQLite.

gaja   *iOS Development*
Swift   *Feb. 2019*
- Developed an iOS app to store categories of lists of favorite locations in a database, and conveniently locate those categorized places on a map by integrating API services.
- Incorporated Google Maps API, Google Places API, and Realm database to search and map desired locations.

Skills

Languages   **C++**, Python, JavaScript, Java, HTML, CSS
Technologies   Git, Firebase, Vue.js, REST API, Flask, NodeJS, Amazon Web Services (AWS), Bash, iOS Development, Web Scraping

Campus Involvement

Vanderbilt League of Legends   *Vanderbilt University*
President, Former Treasurer   *March. 2018 - PRESENT*
- Directed the organization to foster, develop, and educate the gaming community of 200+ members on campus.
- Coordinated tournaments against other universities across the nation, as well as local tournaments.

DataBrains   *Vanderbilt University*
Board of Projects   *Sep. 2018 - Dec. 2018*
- Managed the club's projects for undergraduates interested in Artificial Intelligence and Data Science and allow students to explore and learn about the industries.
- Formed teams of different projects and ensure each team is working effectively to make meaningful projects using AI and Data Science.