

# Joshua Kim

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## Education

**University of California, Berkeley**

**Aug 2018 - May 2024**

B.A. in Data Science, *College of Letters and Science* - Business/Industrial Analytics Focus

**GPA:** 3.6/4.0

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## Professional Experience

**Project AEI - Arkham Team Software Engineer**

**Aug 2022 - May 2023**

- Worked on a raspberry pi module prototype that would stream audio input and discern the possibility of physical violence
- Created audio input streaming capabilities using pyaudio, changing the input audio to spectrograms for analysis by the module
- Trained and refined the accuracy of the emotional analysis module using audio datasets, training based on Alan Cowen's research

**Deloitte - Cross Border M&A Team Intern**

**Feb 2022 - Apr 2022**

- In charge of deal development stage of multiple corporate financing and M&A deals ranging from retail and tech to ESG
- Assigned to a major buy-side FDD project for a \$5bn revenue ESG & construction company issuing \$400mn of RCPS
- Evaluated multiple private equity portfolios for a 100+ firms based on recent market multiples, future growth potential, and risk

**Accenture Korea - Digital Interactive Consulting Team Research Assistant**

**May 2019 - Aug 2019**

- Consulted for a global pharmaceutical to implement a data friendly ecosystem to improve HCP marketing & business insights
- Monitored, purified, & organized global KPI data from data platform systems on azure, creating insight reports from data
- Raised localization KPI rate from 7% to 52% during the three month internship (highest rate in all of Asia and Tier 3 markets)

**Republic of Korea Army - Sergeant, Squad Leader | 12th Infantry Division**

**Aug 2020 - Feb 2022**

- Received the Army Chief of Staff Award for ranking 2<sup>nd</sup> in CCPT performance as a linguist
- Represented the 3rd corps in the 2021 ROK- US Combined Command Post Training (CCPT) as a military translator in OPLAN

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## Data Projects/Research

**Central San Joaquin Valley Climate Vulnerability Assessment**

**Jan 2024 - May 2024**

- Compiling various public datasets, assessed CSJ valley's most vulnerable population utilizing ArcGIS Pro and geopandas libraries
- Analyzed CSJ Valley's various demographic, economic, public health, environmental stability, and access to resource indicators

**Aftermath Response to Extreme Weather Situations Using Alternative Means of Aviation**

**Aug 2023 - Dec 2023**

- Created a simulation that modeled behavior of 4 different alternative aircrafts to assess their effectiveness in aftermath response
- Analyzed alternative aviation methods for their applicability in aftermath relief scenarios by assessing economic implications

**Mitigating Airborne Transmission in Healthcare Facilities**

**Oct 2023 - Dec 2023**

- Utilizing datasets from UC Davis Hospital and University of Indonesia, calculated infection risk based on CO2 and air change rate
- Calculated change in infection risk based on hospitals utilizing natural ventilation, mechanical ventilation, and HEPA filtration

**2022 FIFA World Cup Prediction Model**

**Aug 2022 - Dec 2022**

- Utilizing FIFA player dataset, created a decision tree, neural network, and random forest model to predict world cup victory
- Found teams with higher offensive scores, physical scores, and player value to be more likely to win. Predicted Argentina's victory.

**Projects for Classes: Data 100, Data 101, Data 144, CS 61A, CS 61B, CS 188, CS 189**

**Jan 2019 - May 2024**

- Smart Handle: Created a smart handle using Arduino and ESP32 chip that uses Google Maps API to help navigate direction change
- Machine Learning: Trained neural network for digit classification using MNIST dataset, and language identification using RNN
- Pacman: Created Pacman AI using various MinMax, BayesNet, forward algorithm for HMMs, and probability distributions
- UC Berkeley Building Data: Analyzed 1 month sensor data of UC Berkeley buildings using sql; cleaning data for analysis

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## Leadership & Activities

**Berkeley Opinion | President**

**Jan 2020 - May 2020**

**Tennis Association at Berkeley | Doubles Player**

**Aug 2022 - May 2023**

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## Skills & Interests

**Languages:** English (native), Korean (native), Mandarin Chinese (conversational)

**Technical:** Python, Java, R, SQL, ArcGIS Pro, MongoDB, Azure, NoSQL, Scheme, Git, AutoCAD, MS Office, Arduino,

**Interests:** Chess, Tennis, Band (bass guitar)