

Derek Kwon

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<https://dereks-space-portfolio.netlify.app/>

Objective

A curious and driven graduate student with a drive to build intelligent systems and applications. Backed by 2 years of professional experience in writing Python for data engineering and analysis, Security+ certification, and excellent interpersonal skills acquired from several team projects. Looking to advance my career and turn my knowledge into meaningful progress with a competitive position in data science or cybersecurity.

Professional Experience

Data Intern | MacDowell Law Group | Fairfax, VA

Aug 5th 2024 – Present

- Utilized natural language processing and regular expressions in Python to interpret convoluted Excel client data and automate data wrangling so that it could be processed by software vendor AI
- Wrote scripts to automate the comparison of multiple excel spreadsheets to pinpoint data loss caused by a power outage, made secure backups of data to avoid future incidents
- Advised supervisor in a consulting session with a software vendor looking to add their customer service chatbot to the law firm's website
- Troubleshoot technical issues around the office such as account lockouts and browser misconfigurations

Content Data Specialist Intern | Tesla Government | Falls Church, VA

Jun 1st 2023 – Sep 1st 2023

- Wrote Python scripts to automate cleaning and filtering of Excel datasets to streamline data visualization
- Ran simulations with computational models to add predictive data for display on company site
- Competed in the company hackathon and collaborated on a BERT language model that assigned keyword tags to articles; was responsible for gathering and preprocessing the training data and training the tokenizer
- Participated in company's data visualization competition with bubble plots for foreign relations data made in RStudio
- Leveraged Python's web scraping capabilities with BeautifulSoup and Selenium and aggregated data from both English and Korean online sources to contribute to company's information base on foreign nations

Education

University of Virginia | Charlottesville, VA

Will graduate Aug 2027

Program: MS in Data Science

William and Mary | Williamsburg, VA | GPA: 3.60

Graduated May 2025

Degree: Bachelor of Science

Major: Computer Science

Awards/Honors: Cum Laude

Campus Activity: W&M Game Development Club, W&M Taekwondo Club

Skills, Certifications, Clearance

Data & AI Skills: Data Wrangling, Data Cleaning, Python Pandas Library, Natural Language Processing, Reinforcement Learning Algorithms, TensorFlow, PyTorch, OpenAI Gymnasium, Big Data Handling, JSON and XML formats, Web Scraping, BeautifulSoup, Selenium, SpaCy, OpenCV, Microsoft Excel

Tools & Apps: Linux, Git, Docker, VirtualBox, Microsoft SQL Server, Power BI, Azure, AWS, Unity Game Engine, Blender

Programming Concepts & Languages: Object Oriented Programming, Version Control, Line by Line Debugging, Python, Java, SQL, C#, JavaScript, R

Certifications: CompTIA Security+ (certified as of 7/14/2028)

Clearance: Eligible to obtain (US citizen by birth)

Languages: English (native speaker proficiency), Korean (professional fluent proficiency)

Projects

Full-Stack Team Collaboration Website

- Spearheaded development of the backend and database in a team of 7 students with the goal of building a team conference and collaboration website that used Robert's Rules of Order to streamline communications
- Deployed a cloud SQL database with Microsoft Azure and wrote server-side JavaScript to allow users and team members to query it from the frontend

Data cleaning and engineering of Open Intelligence Cyber Threat Data

- Wrote Python script to read in MITRE ATT&CK data on cyber attacker techniques and transform by adding new columns
- Used SpaCy natural language processing library to remove stopwords and punctuation; wrote regular expressions to pattern match and extract associated codes and commands, associated techniques
- Cross referenced with Known exploits and vulnerabilities dataset to identify which vulnerabilities allowed certain attacker techniques

Deep Reinforcement Learning Hide-and-Seek with Unity ML-Agents

- Trained two agents with deep reinforcement learning by leveraging Unity's ML-Agents Library and used them to develop a game in which players could play against the agents

Solo developing game – restaurant manager game

- Pursuing game development as a hobbyist in spare time with Unity game engine
- Proficiency in object-oriented C# and the Unity editor
- Finished implementing character customization and start screen