# Alexander Wood

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## Education

**Pomona College** Claremont, California

*Bachelor of Arts in Computer Science* *Aug 2021 – Dec 2024*

- 2022-2023, Academic All-American -athlete, maintaining a 3.4 or above.
- **Relevant Courses:** Data Structures Adv Programming, Machine Learning w/ Neural Signal, Machine Learning, Game Engine Programming, Big Data, Complex Systems, Computer Systems, Algorithms.
- **Extracurricular:** Taiko Club(Treasurer), D-III Varsity Football Athelete, P-ai project member: p-NXT Play.

## Technical Skills

**Languages**: Java, Python, SQL(pSQL,MySQL, SQLite3), C, Rust, Shell
**Developer Tools**: Git, Docker, VS Code, PyCharm
**Software**: Overleaf, Google Sheet, Excel Sheet, Notion, Github
**Packages**: Pandas, NumPy,PyTorch,TensorFlow

## Projects

**p-NXT Play; Football AI Team** | *Python, Yolov8, TensorFlow, Pandas, Google Co-Lab* February 2024 – Present

- Enhanced a football offense formation detection model by refining data pre-processing and cleaning techniques, boosting accuracy by 30% over the previous model.
- Led the overhaul of data processing methods to optimize performance for predictive modeling.

**Deployment of Photo Distribution Site** | *AWS-Ec2, pKeep, PostGres, pSQL, Git* Jan 2024 – Present

- Worked Collaboratively with a small team to deploy, monitor, and scale a Java-based web application Service.
- Implemented on-scheduling, monitoring, services, and CI/CD techniques to optimize system efficiency, proactively identify and address issues, and ensure the application remains operational at all times.

**Twitter Coronavirus Data Manipulation** | *Git, Python, Shell* Jan 2024 – Feb 2024

- Conducted large-scale Twitter analysis of geotagged tweets in 2020 to monitor the popularity of coronavirus, processing over 1.1 billion tweets using the MapReduce paradigm.
- Developed parallel code utilizing MapReduce to analyze multilingual text, achieving efficient processing with scalability, demonstrated through visualizations and data reduction techniques.
- Created a PostgreSQL database and inserted data from a JSON object into it. We enhanced the efficiency of data insertion and querying by using indexes and modifying the tables, all managed within Docker to organize the PostgreSQL data.

**Various Machine Learning Models** | *Java, Git* Sep 2023 – Dec 2023

- Defined individual classes for machine learning models w/o the use of premade libraries or packages.
- Created a Class that can read parse through CSV or TXT transforming data into trainable and testable formats.
- Models/techniques made: Naive Bayes, Perceptron, Decision Tree, One-vs-All (OvA), One-vs-One (OvO), Gradient Descent, Neural Networks, Gradient Descent, and Random Forest.

**Classifying Healthy Case vs Depression Case** | *Python, Pandas, Numpy, Scikit Learn* Nov 2022 – Dec 2022

- Utilized real-world data and applied machine learning techniques in Python to identify the optimal model for classifying healthy and diagnosed patients, resulting in a nearly 90 percent accuracy rate.

## Experience

**Computer Science Mentor/TA** Jan, 2024 – Present

*Pomona, College* *Claremont, CA*

- Providing mentorship to younger students during labs and mentor sessions, focusing on Java-based instruction in data structures, object-oriented programming (OOP), and algorithms.

**Lead Attendant** Oct 2022 – Present

*Pomona College* *Claremont, CA*

- Collaborating effectively with the shift team to allocate responsibilities, encompassing food preparation and transaction management

*Note: This resume highlights projects due to my early industry stage. For a comprehensive list of job experiences, please visit my* **LinkedIn**