Nathan Chung

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EDUCATION

University of Maryland College Park — **College Park, MD**
Bachelor of Science, Computer Science. — *August 2019 — May 2023*

- **Honors:** University Scholars Program - Science, Discovery, and the Universe (3% acceptance rate for applicants)
- **Organizations:** Alpha Kappa Psi Professional Business Fraternity (Director of Marketing)
- **Selected Coursework:** Object-Oriented Programming, Computer Systems, Programming Paradigms, Algorithms, Discrete Mathematics, Computer Vision, Machine Learning
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EXPERIENCE

Machine Learning Intern — **Annapolis, MD**
Praxis Engineering General Dynamics — *April 2021 — August 2020*

- Designed a video analysis tool that handles large quantities of video data for audio and video/image processing in order to provide analysts with refined and customizable information about the dataset. Some features include sentiment analysis from text extracted from audio, detecting and classifying objects from videos using deep learning models and computer vision.
- Leveraged Yolov3 and Resnet50 deep learning models for object recognition using datasets taken from kaggle and fine tuned them to correlate certain objects with different events. Resulted in 80%+ accuracy.
- Implemented in a cloud-based environment, utilizing AWS Lambda for serverless computing.

JP Morgan Chase — **Remote**
Software Engineering Virtual Experience — *July 2020 — August 2020*

- Designed a dashboard to allow equity traders to visualize and monitor performance of various trading strategies in real-time.
- Leveraged JP Morgan's open source visualization framework (Perspective) to support stock filtering and aggregation functionality.
- Implemented calculation pipelines to compute metrics such as bid-ask spreads and simple moving averages in real-time.

PROJECTS

Unix Shell Reconstruction | *C, Unix, Emacs*

- Re-Engineered a Unix shell to support input/output redirection, command piping, and command chaining via the "&&" operation.
- Created a parser to parse and validate user input, execute commands, and apply subshell forking when necessary.

Predicting Stock Prices with Linear Regression | *Python, SKLearn*

- Standardized stock ticker data from Quandl via Pandas Dataframes.
- Developed a Linear Regression Model to predict stock prices 30 days into the future given adjusted closing prices.
- Used a 80-20 split for test/train datasets, trained a linear regression model over the training data and tested for accuracy.

WordNet Semantic Graph | *Ruby*

- Constructed a Directed Acyclic Graph (DAG) to represent semantic relationships between words.
- Architected semantic graph to group words into synonym groups (synsets), and map "is-a" relationships from hyponyms (child synset) to hypernyms (parent synset).
- Developed a command parser to allow users to perform actions on the semantic graph such as word lookup, least common ancestor search, and hyponym-hypernym relationship load.

SKILLS

Technical Skills: Java, C, Python, Ruby, OCaml, Flask, JavaScript, SQL, Assembly (AVR),

Tools: AWS, Kibana, Git, Emacs, Unix, Linux, Jupyter Notebook, Cloud9, SKLearn, Ginger Templating, Windows, Excel

Languages: Native English, Limited Working Proficiency in Korean

Interests: Music Production, Fashion, Soccer