Wilson Jusuf

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EDUCATION

University of California, Los Angeles (B.S. Computer Science)

CGPA: 3.80/4.00   Expected graduation: Jun. 2021

Courses: Data Structures & Algorithms, Computer Organization/Architecture, Software Engineering Lab, OS (POSIX), Databases, Distributed Systems, Computer Networks, GIS Systems, IoT, ML & Deep Learning, Computer Vision, Linear Algebra, Stochastic Processes

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WORK EXPERIENCE

Paypal Inc. - Software Engineering Intern   **Los Angeles, CA**   *June 2020 - present*

Working at the Product Catalog team of Honey, recently acquired by PayPal. I am responsible for developing a **scalable, fault-tolerant** system that keeps track of and updates all product information browsed by more than **20M+** shoppers.

Mathpix Inc. - Software Engineering Intern - Deep Learning   **Santa Monica, CA**   *Oct. 2019 - June 2020*

Mathpix develops market-leading Math OCR-as-a-Service that digitizes STEM images into LaTeX. My responsibilities include:
- **Foreign-Languages OCR**: leading the recognition of **high-demand foreign** languages such as Korean, Hindi, Chinese, Japanese, Thai, and Viet, ensuring **vocabulary compactness** - **reducing 10k+ tokens to only 400 in the model**.
- **Facilitated scalable ML training** for any foreign language by automating generation of realistic language training data, **eliminating need for manual labor labeling** by developing scripts that **generate 1M+** training samples.
- **Dataset Analytics:** Created more visibility and granularity into model's performance on dataset using ES & Kibana.

Tokopedia.com - Fullstack Engineering Intern   **Jakarta, Indonesia**   *Jun. - Sept. 2018*
- Led the **React ES6** Migration Project for Tokopedia's chat service. Tokopedia is Indonesia's largest online marketplace.
- Designed entire project infrastructure, including a **Go** assets server and strategized build & deployment with DevOps team.
- Significantly decreased load by achieving a **20% (75 KB) size reduction** for production assets.
- Enabled **80,000,000+** end-users to chat with sellers easily in a new homepage chat feature created with migrated stack.
- Eased the path of frontend development for the chat team of **7 people** with an optimized workflow and stack.

Textpert inc. - Machine Learning Intern   **Los Angeles, CA**   *Jan. - April. 2018*
- Led the design and fine-tuning of Audio Neural Networks for AIME (Artificial Intelligence Mental Evaluation - a 10-minute Mental Health Test) to analyze depression risk from patients' vocal expression.
- Carefully architected **speech feature extraction**, such as MFCC and Fundamental Pitch gradient features.
- Achieved a **90% testing accuracy** just from raw audio data in Proof of Concept Audio Network.
- Integrated Networks with text and video to ultimately form AIME's engine, now used in **LA and San Diego clinics** to measure anxiety and depression risk.

Gojek Indonesia - Machine Learning Intern   **Jakarta, Indonesia**   *Jul. - Sept. 2017*
- Architected a deep learning model for Gojek (Decacorn Indonesian on-demand/logistics startup) to conduct sentiment analysis of Indonesian feedback comments to improve customer service.
- Achieved an **unprecedented testing accuracy score of 78%** for sentiment analysis in the Indonesian language by utilizing LSTM cells, Neural Networks, and word2vec embedding.

PROJECTS

Missing Child
- Re-uniting parents and children separated by disaster by using state-of-the-art kinship verification and transfer learning. IBM Call for Code 2019. Achieved a **90.2% kinship verification testing accuracy** on the FIW dataset. (Available on Github)

tepuknyamuk.com (live)
- An online, real-time multiplayer card game I fully architected front-end to back-end. Built with **React, Node, Redis, PostgreSQL, WebSockets, Nginx** and hosted on **DigitalOcean**. Used **Datadog** for game monitoring. (Available on Github)

sharded Paxos KV store
- A distributed, replicated and sharded fault-tolerant Key-Value Store using the Paxos Consensus Algorithm.

LEADERSHIP

Cyber Shanty
- Co-founded Cyber-shanty, a digital literacy initiative to teach **a cohort of 15 kids** living in impoverished areas of Jakarta to use computers to study, contact each other, have fun and empower their lives.

SKILLS

Programming Languages: Go, C, C++, JS, Bash, Java, Python   **Frontend**: React ES6, React Native, Jest, Webpack, Redux
Backend & Cloud: Node, Go, PostgreSQL, Docker, Redis, Nginx, Datadog, ElasticSearch & Kibana, Linux, AWS, DigitalOcean
Machine Learning: Pytorch, Keras, Regression & Classification, NNs, RNNs, Computer Vision, CNNs, NLP, Probabilistic Methods
Languages: English, Indonesian, Japanese, Chinese, German, Korean
Interests: Cooking, Playing Musical Instruments, Jazz Improvisation, Learning Languages