John **Dang**

Computer Science Student · Software Engineer · AI / ML Researcher

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Education

University of California, Los Angeles (UCLA)

Los Angeles, CA

B.S. in Computer Science, GPA: 3.8, Junior Standing — *Sep. 2018 - Jun. 2022*

- Achievement Scholarship Recipient, Association for Computing Machinery (AI Projects Officer), Upsilon Pi Epsilon (CS Honor Society)
- Relevant UCLA Coursework: Machine Learning, Computer Vision, Data Mining, Algorithms and Complexity, Data Structures and Algorithms, Object-Oriented Programming, Software Construction, Probability Theory, Linear Algebra, Multivariate Calculus, Discrete Structures, Statistical Reasoning, Research, Computer Organization
- Independent Coursework: Stanford Machine Learning (Coursera), Deep Learning (deeplearning.ai), Deep Reinforcement Learning (Berkeley)

Work Experience

Center for Vision Cognition Learning and Autonomy (VCLA) / International Center for AI and Robot Autonomy Inc. (CARA)

Los Angeles, CA

Undergraduate Student Researcher; Principal Investigator: Professor of CS and Statistics, Song-Chun Zhu — *May. 2019 - Present*

- Researching transfer learning, reinforcement learning, and causal learning jointly at VCLA lab and CARA non-profit under Prof. Song-Chun Zhu.
- Developing VRGym, an AI research platform for training and evaluating agents in 3D environments built on on **(Unreal Engine/C++/Python).**
- Designed and implemented automatic structured, stochastic 3D scene generation including integration with Shapenet and Partnet. Wrote scripts for automated import and conversion of raw 3D model files into Unreal Engine assets. VRGym platform will be open-sourced soon.
- Integrating Pyro, a Pytorch-based probabilistic programming language for probabilistic inference in stochastic VRGym environments.
- Demonstration of work was presented by Professor Song-Chun Zhu during an invited talk at **World AI Conference 2019** in Shanghai.

Sike AI (Anderson Venture Accelerator and StartupUCLA Backed)

Los Angeles, CA

Deep Learning Engineer — *Oct. 2018 - Oct. 2019*

- Created deep learning model for five-factor OCEAN personality trait extraction from text for enabling client companies' to better understand employees. Model predicted 0.0-1.0 valued personality traits **within 0.015**. Utilized state of the art natural language processing algorithms.
- Designed and implemented data infrastructure, including storage on AWS Simple Storage Service and Relational Database Service (MySQL).
- Ran multi-GPU distributed **Tensorflow** model training on AWS Elastic Compute Cloud, and model deployment on AWS Elastic Beanstalk.

Howard Hughes Medical Institute (HHMI) / Ozcan Research Group (ORG)

Los Angeles, CA

Machine Learning Researcher; Principal Investigator: Professor of Electrical Engineering, Aydogan Ozcan — *Oct. 2018 - Jun. 2019*

- Developed deep learning system for quick, mobile, and accurate protein analysis of blood sample images for disease diagnosis in **Tensorflow**.
- Custom Convolutional Neural Network system achieved **tenfold improvement** over traditional methods in efficiency on embedded devices.
- Presented work, *Fast Particle Analysis Using Machine Learning*, at HHMI Day Research Conference. Poster here: www.johndang.me/ozcan

Logos News LLC.

Los Angeles, CA

Software Engineering Intern — *Oct. 2018 - Dec. 2018*

- Developed iOS app in for diverse, crowd-sourced, and personalized news platform **(Swift)**. Performed various app bug fixes and refactoring.
- Implemented article text highlighting feature enabling text-specific social interaction, discussion, and bias ratings.
- Redesigned Firebase database structure and wrote new Google Cloud Functions, lowering data processing and app loading times **(Javascript)**.

Projects

Sincerely, AI

Developer (SB Hacks 2019)

- Trained **Tensorflow** deep learning model for detection of insincere questions using NLP. Achieved **96% accuracy and 0.7 F1-score** on Quora Insincere Questions Dataset (over 1.3 Million data samples). Utilized transfer learning and model hyperparameter fine-tuning.
- Deployed model on Django web server for use with Chrome Extension that determines sincerity of highlighted text on webpage **(Python)**.

Perspective

Developer (Winner of Most Useful Hack at EV Hacks 2018)

- Developed **Java** web app that allows user to read two news articles side by side that are likely to differ in perspective on the user's search query.
- Integrated Bing News Search API for article retrieval and scraped web for bias data for determining likelihood of articles differing in perspective.

Skills

Programming Python, C++, C, Java, Javascript, Matlab, HTML, CSS, Bash, Octave, Swift, SQL

Technologies Git, Github, Tensorflow, Pytorch, Keras, SKLearn, OpenAI Gym, Amazon Web Services, Firebase, Unreal Engine, LaTeX