John Dang

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Education

- **University of California, Los Angeles** — Los Angeles, CA
  MS and BS - Computer Science; GPA: 3.7 — *Sep 2018 - Jun 2023*

  Achievement Scholarship Recipient; ACM Chapter at UCLA (President of AI); Upsilon Pi Epsilon (CS Honor Society) Member
  Courses: *Reinforcement Learning (Graduate), Natural Language Processing (Graduate), Neural Networks and Deep Learning, Probabilistic Decision Making and Reinforcement Learning, Machine Learning, Computer Vision, Data Mining, Artificial Intelligence*

Experience

- **Center for Vision, Cognition, Learning, and Autonomy Lab at UCLA** — Los Angeles, CA
  Student Researcher; Advisor: Prof. Song-Chun Zhu — *May 2019 - Present*
  - Researching unsupervised scene decomposition, representation learning, and ML/robotics in VR.
  - Built VRGym, a research platform for AI agents in 3D environments **(Unreal Engine/C++/Python).**
  - Implemented automatic structured, stochastic 3D scene generation. Wrote scripts for automated import and conversion of Shapenet and Partnet 3D model files into Unreal Engine assets.
  - Demonstration presented by Professor Song-Chun Zhu during an invited talk at **World AI Conference 2019**.
- **Amazon Web Services** — Seattle, WA
  Software Development Engineer Intern — *Jun 2021 - Sep 2021*
  - Deployed new anomaly detection feature to load tests for performance regressions when new code changes are pushed to a service that manages security configurations for Elastic Compute Cloud (EC2) hosts **(Java)**.
  - Built ticket automation library for automatically generating data visualizations in ticket correspondence for operator analysis and ticket resolution of automatically resolvable tickets. **(Java)**
- **UCLA Vision Lab** — Los Angeles, CA
  Student Researcher; Advisor: Prof. Stefano Soatto — *Mar 2020 - Dec 2020*
  - Multi-task learning in computer vision through deep learning. Implemented SotA multi-task learning baselines.
  - Built novel deep learning models for performing multiple computer vision tasks including pose, optical flow, and depth prediction using a single model **(Python/Pytorch)** on KITTI and VKITTI autonomous driving datasets.
- **Amazon Web Services** — Seattle, WA
  Software Development Engineer Intern — *Jun 2020 - Sep 2020*
  - Implemented infrastructure for logging of serialized Elastic Compute Cloud (EC2) host security configuration state change data structures to AWS Cloudwatch **(Java)**.
  - Built command-line interface for querying of historical security configuration state data and programmatically reproducing host state at any time for operator analysis of host behavior on a local machine **(Java)**.
- **Kona (heykona.com)** — Los Angeles, CA
  Deep Learning Engineer — *Oct 2018 - Oct 2019*
  - Created deep learning model for five-factor OCEAN personality trait extraction from text. Model predicted 0.0-1.0 valued personality traits **within 0.015**. **(Python/Tensorflow)**.
  - Built data infrastructure, including storage on **AWS** Simple Storage Service and Relational Database Service **(MySQL)**. Ran multi-GPU distributed model training and deployment on AWS Elastic Compute Cloud.
- **Ozcan Research Group at UCLA** — Los Angeles, CA
  Student Researcher; Advisor: Prof. Aydogan Ozcan — *Oct 2018 - Jun 2019*
  - Built CNN deep learning system for quick, mobile protein analysis of blood sample images for disease diagnosis (**Tensorflow**). Achieved **10x efficiency improvement** over traditional methods on embedded devices.
  - Presented work, *Fast Particle Analysis Using Machine Learning*, at HHMI Day Research Conference. Poster Presentation: johndang.me/ozcan

Projects

- **MAML for Content Moderation**: Applied Model Agnostic Meta Learning (MAML) for fast adaptation to wide distribution of NLP content moderation tasks like sentiment analysis **(Pytorch)**. Code: github.com/jamqd/Content_Moderation_MAML
- **Deep Q-Learning Implementation**: Deep Q Network (DQN) and Double Deep Q Network (DDQN) implementations **(Pytorch)**. Achieves optimal performance on LunarLander-v2 OpenAI Gym task. Code: github.com/jamqd/DQN
- **SincerelyAI**: Quora Insincere Questions classification with deep learning. Utilized transfer learning and **Tensorflow** Hub Universal Sentence Encoder module. Achieved 96% accuracy and 0.7 F1 score. Code: github.com/jamqd/SincerelyAI

Skills

- **Programming**: Python, C++, C, Java, Javascript, Matlab, HTML, CSS, Bash, Octave, Swift, SQL
- **Technologies**: Pytorch, Tensorflow, Git, Keras, SKLearn, OpenAI Gym, AWS, ROS, Unreal Engine, LaTeX