Weizhi Li

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SUMMARY

I am looking for a **research scientist/machine learning engineer** role. I have a background mixed with academia and engineering experience in **designing neural networks**, **statistical tests**, **computer vision/image processing algorithms**, and **Ads recommendation algorithms**.

EDUCATION

Arizona State University, Tempe, AZ **Aug 2022**
Doctor of Philosophy in Computer Engineering GPA: 3.8 /4.0
Texas A&M University, College Station, TX **Dec 2017**
Master of Science in Electrical Engineering GPA: 3.7/4.0
Shandong University, P.R. China **June 2015**
Bachelor of Engineering in Electronic Information Science and Technology GPA: 85 /100

SKILLS

Machine Learning	Statistical Testing, Statistical Learning, Deep Learning
Programming	Python, C++, Matlab
Libraries	Tensorflow, PyTorch

PROFESSIONAL EXPERIENCE

Research Scientist, Full-time | Meta **Sep 2022 - Now**

- Worked with the **Ads team to refactor infrastructure code** and research an efficient use of **neural architecture search**.
- Investigated and compared the **neural network uncertainties** drawn from **dropout**, **multi-armed bandit**, and **Bootstrap**.

Research Assistant, Full-time | Arizona State University **2018 - 2022**

➢ **Project: Active Meta-Learning**

- Designed a **deep neural network regularization** algorithm called structural label smoothing. It imposed data-dependent regularization without modifying the loss function. Observed **2% classification accuracy gain** for experiments on **CIFAR10, CIFAR-100, and SVHN**.
- Designed an **active model selection algorithm** that shows **10% relative classification accuracy gain** over baselines with same size of data.
- Designed a **novel A/B test** that **spent 5x fewer membership queries** than a baseline to test the correlation between a biomarker and clinical endpoints using an **Alzheimer`s disease dataset**.

Machine Learning Engineer, Full-time Intern | Facebook **May - Aug 2021**

➢ **Project: Transferable Semantic Augmentation for Domain**

- Used a **transfer learning** technique to address the **Ads signal loss** caused by privacy protection in mobile phones.
- Applied **semantic data augmentation** for data in the source domain to generate extra data that incorporates semantic knowledge about the data in the target domain.
- Observed **0.21% normalized entropy gain** over baselines.

Research Assistant, Full-time | Texas A&M University **2016 - 2017**

➢ **Project: Histological Image Segmentation Using Deep Learning**

- Used **ImageJ** to assist clinicians from veterinary school to make **annotations on ~300 histological images.**
- Built a **novel image segmentation neural network** based on the **Unet** and the network could **tolerate noisy labels** in mode training for image segmentation tasks.
- Observed **90% segmentation accuracy** on the test set of collected histological images.

PROJECTS

Multi-view 3D object detection network for autonomous driving **May - Aug 2017**

- Processed raw **LIDAR point cloud** and prepared it for model training.
- Built an object **detection deep network called MV3D**. This is a deep network composed of two subnetworks to receive the **LIDAR** and **RGB image data**.