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WORK EXPERIENCE

Machine Learning Engineering Intern, Micron Technology   Summer 2019
Built demonstration of FPGA-based deep learning accelerator in ADAS for Frankfurt Auto Show '19
- Developed a smart lock application using pose estimation, gesture recognition, and face & speech recognition
- Designed a compute efficient one-shot pose estimation network that can run at >60 fps on GPU
  - 4x faster, 12x fewer FLOPS compared to OpenPose (SOTA) for same size image

Research Engineer, FWDNXT   Jan 2018 - May 2019
Designed compute efficient neural networks optimized for FWDNXT's deep learning accelerator
- Built networks for object detection, tracking, pose estimation, segmentation and face recognition
- Developed a smart-camera solution able to detect people and track target of interest at 30 fps
  - Built person detector with 5x fewer FLOPS & 5 % drop in performance compared to YOLOv3
  - Improved a popular multi object tracker (SORT) by incorporating Siamese networks

Founding Engineer, Perceive   Aug 2016 - Aug 2017
Developed core video processing pipeline and geometric vision algorithms
- Designed a multi-camera person localization algorithm to triangulate and track people
- Implemented and benchmarked various object detection algorithms (SSD, YOLO, Faster-RCNN)
- Built a distributed task queue based video processing pipeline that reduced AWS costs by 70%

Software Development Intern, Bloomberg L.P.   Summer 2016
Built anomaly detection & trade workflow recommendation feature for Bloomberg middle office tools
- Used boosted trees to predict (with 95% accuracy) next state of a given trade to decide if it needs user-attention

Software Development Intern, Bloomberg L.P.   Summer 2015
Built feature to enable security search and filtering within Bloomberg's asset management tools

EDUCATION

Master of Science in Computer Engineering   Fall 2019
Purdue University, West Lafayette, IN   GPA: 3.81 / 4.0
Advisor   : Eugenio Culurciello
Research : Compute efficient neural networks for Computer Vision; Unsupervised Learning

Bachelor of Science in Computer Engineering   Spring 2016
Purdue University, West Lafayette, IN   GPA: 3.77 / 4.0

PROJECTS   { more information on webiste }

Deep Video Compression : End-to-End neural network for Video Compression **{ Ongoing }**

Lane Prediction : End-to-End neural network for predicting lanes using heatmap regression **{ Ongoing }**

PyTorch Profiler : Python tool to count FLOPS and parameters of a given PyTorch model

ONNX Explorer : Web based tool to visualize and profile ONNX models

3D Mapping Quadcopter, FPGA MIPS Processor, FPGA Bitcoin Miner, Assistive hat for the blind

TOOLS

- Python, PyTorch, Linux, Git **{ Proficient }**
- C/C++, HTML, JavaScript, CSS, MATLAB, Verilog **{ Intermediate }**