NICHOLAS SEIDL

Computer Vision - Software Engineer

I have experience in industry working a variety of roles. I'm currently working on a **live object detector (YOLO)** for Wayfair (Summer 2019). In the Spring, I worked on **failure analysis** of Apple's Neural Face Detector, amongst other **computer vision** and **machine learning** functions. In 2018, I built two **web services** at Apple: one for **content analysis and retrieval** and one for **hosted image comparisons and history**.

I'm currently looking for a full time position on a camera/imaging/photos team focused on **computer vision.**

Contact

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 nseidl.io

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 github.com/nseidl

Languages

Python, Java, Javascript, C, C++, Swift

Software

Tensorflow, TensorRT, Keras, TFLite, CoreML, EC2, Tornado, Flask, React, Typescript, Redux, Node, S3, Postgres, Elasticsearch, MySQL, REST, Docker

Courses

Algorithms and Data Structures
Artificial Intelligence
Linear Algebra
Distributed Systems
ML and Data Mining
Object Oriented Design
Computer Systems
Programming Languages
Probability and Statistics

Interests

Board Member of Pool Club, Photography Club, Basketball, Hiking

Experience

Wayfair LLC
Boston, MA

Computer Vision - Software Engineer
Summer 2019

- Implement YOLO(v3) neural network for live on-device object detection
- Optimize with quantization, CUDA, cuDNN, TensorRT, and Tensor Cores
- Achieve 80x speedup in inference time and up to 4x smaller model sizes

Apple Inc.
Cupertino, CA

Camera & Photos CVML - Failure Analysis
Jan. 2019 - June 2019

- Analyzed and visualized failures of face detector to target specific aggressors and guide development
- Designed and automated failure analysis pipeline: inference → detection evaluation → failure analysis → visualization
- Curated datasets for different uses with custom model in the loop processes
- Managed data collection, selection, and annotation (guidelines, spec, and quality)

Apple Inc.
Cupertino, CA

IMG QE - Full Stack Software Engineer
Jan. 2018 - Aug. 2018

- Content Collection: audio/image/video/stream analysis and retrieval
  - Integrated blob (Amazon S3) and metadata (Postgres) stores to serve content
  - Leveraged Python and Tornado for asynchronous and non-blocking REST API
  - Extracted attributes from audio, image, video, and stream content (Swift)
- Image Comparisons: image comparison web service with history
  - Rewrote backend in Flask; expanded API for frontend and hosted comparisons
  - Modularized backend so different comparison algorithms can easily be added

UnitedHealth Group - Optum Technology
Boston, MA

TDP - Backend Software Engineer
Summer 2017

- Engineered pluggable Blockchain platform; adapted to bank transaction reconciliation and facilitation (big data)
- Designed, implemented, optimized backend and middle-tier pipeline (Python, Bash): MySQL → .csv → JSON → Elasticsearch → Blockchain → Hash Enforcer
- Leveraged Docker and Openshift for rapid deployment of system infrastructure
- Created Shark Tank presentations bi-weekly: demo, business case analysis

Education

Northeastern University
Boston, MA

Bachelor of Science in Computer Science
Sep. 2015 - Dec. 2019

Khoury College of Computer Sciences
GPA: 3.5 / 4.0