
NICHOLAS SEIDL

Computer Vision - Software Engineer

I have experience in industry working on various **computer vision** and **machine learning** projects. I'm currently working at Apple in their C&P CVML team on various projects, such as face detection. I built a **live object detector (YOLO)** for Wayfair in Summer 2019. In Spring 2019, I worked on **failure analysis** of Apple's Neural Face Detector. In Spring + Summer 2018, I built two **web services** at Apple: one for **content analysis and retrieval** and one for **hosted image comparisons and history**.

Contact

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[/in/nicholaskseidl](https://in.linkedin.com/in/nicholaskseidl)



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

Apple Inc.

CVML - Machine Learning Engineer

Cupertino, CA
Spring 2020 - Present

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Wayfair LLC

Data Science - Computer Vision Engineer

Boston, MA
June 2019 - Aug. 2019

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

Apple Inc.

CVML - Machine Learning Engineer

Cupertino, CA
Jan. 2019 - June 2019

- Analyzed failures of face detector to target 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.

IMG QE - Full Stack Software Engineer

Cupertino, CA
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

TDP - Backend Software Engineer

Boston, MA
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

Education

Northeastern University

Bachelor of Science in Computer Science
Khoury College of Computer Sciences

Boston, MA
Sep. 2015 - Dec. 2019
GPA: 3.5 / 4.0
