Yuval Boss

· Software Engineer ·

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Technical Skills & Achievments

Languages Java · Python · C++ · Javascript · HTML · CSS · C# · SQL · Bash

Software Git · AWS · GCP · Postgres · Docker · Pytorch · Tensorflow · Flask · Node.js · Postgres · OpenCV · Mockito · Linux

Domains Systems Design & Architecture · Distributed Systems · REST Applications · CI/CD · Optimization · Computer Vision · Machine Learning · MLOps · Feature Engineering · Reinforcement, Supervised, and Semi-Supervised Approaches

Achievments IEEE ICIP Plenary Speaker (2021) · 1st Place AWS SCM Hackathon (2023) · 1st Place XNOR.AI ai2go Hackathon (2018)

Experience

Amazon Web Services
Seattle, WA

Software Development Engineer - Data Center Supply Chain Automation
Jan. 2022 - Mar. 2024

Worked for AWS infrastructure team owning a T1 service that acts as the central source for tracking, processing, automating, and providing accurate data for supply chain and lifecycle tracking of all AWS assets globally to dozens of Data Center Operations (DCO) customer teams.

- Owned regionalization of the core T1 service from design through to production deployment which reliably replicates and ensures eventual consistency of tens of millions of events between regions every day which increased accuracy, reliability, and availability.
- Reduced error rates in non-commercial regions by ∼90% and increased availability by orchestrating large cross-team efforts to distribute dependent systems, increase active alarming, and implement fault tolerance.
- Implemented tool suite for automating resolution of common customer impacting issues which has greatly improved operational excellence capabilities by reducing resolution time for hundreds of customer impacting issues spanning tens of millions of assets.
- Reduced costs by $880k annually by optimizing cloud infrastructure resources across development and production environments.
- Increased knowledge sharing by organizing and hosting weekly knowledge sharing presentations and regularly improving and maintaining developer and customer facing documentation.

National Oceanic and Atmospheric Administration (NOAA)
Seattle, WA

Machine Learning Engineer Lead
Mar. 2020 - Jan 2022

Worked with scientists in Alaska Fisheries Science Center's Polar Ecosystems Program, tasked with the development and deployment of machine learning pipelines, models, and methods for use in aerial surveys of Ice Seal species and Polar Bear populations. I succesfully delivered machine learning based solutions that reduced survey data evaluation time by over 87.5%, from two years to three months while maintaining the same high standards for quality required by the downstream scientific studies.

- Lead model research, assessments, architecture customization, selection, fine-tuning, and optimization.
- Delivered and deployed high accuracy multi-modal detection & classification models & fusion pipelines to production where they run in-flight at 2Hz(FPS) on high-resolution color (8K), thermal, and ultraviolet imagery. Solution continues to be used in all aerial surveys since achieving mean precision of 87% and mean recall of 93% on data where objects are extremely sparse.
- Implemented ETL pipelines for feature engineering, data augmentation, standardization, and semi-supervised learning workflows enabling rapid experimentation and development capabilities.
- Developed user interfaces to enable scientists to configure and customize batch inference runs, reducing the manual effort required.
- Invited as plenary speaker for the 2021 IEEE International Conference on Image Processing (ICIP) conference where I presented our project, methods, and results with the academic community (slides).

XNOR.AI *(Acquired by Apple Inc.)*
Seattle, WA

Machine Learning Research Intern
May. 2018 - Dec. 2019

Conducted research with the National Oceanic and Atmospheric Administration (NOAA) and the University of Washington to examine feasibility of using high performance machine learning algorithms in real time on aerial surveys of seal and polar bear populations in the arctic. My research proved feasibility and continued this work directly with NOAA when XNOR was acquired by Apple in Dec 2019.

University of Washington
Seattle, WA

Software Developer - Department of Genome Sciences
Oct. 2013 - Jan. 2018

Worked on the Skyline development team, alongside researchers in the MacCoss Lab. Skyline is an open-source application that aides in analysis of mass spectrometer data used by tens of thousands of researchers monthly.

- Delivered important user-facing features, contributed tests, and performed code reviews.
- Improved software stability and monitoring by developing an internal application for aggregating results from nightly test runs over many machines, logging over 10 million records per year. The tool enabled managers and developers to browse, visualize, and better understand metrics and the overall stability of the software and granular insights.
- Developed web application for researchers to visually browse peptide degradation in protein assays collected in the lab.
- Developed interface for external plugins in Skyline and a web app store hosting over 20 user-developed plugins.

Education

University of Washington
Seattle, WA

BSc. Computer Science - Paul G. Allen School of Computer Science
Graduated Spring 2020