

Yuval Boss

COMPUTER VISION ENGINEER

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Passionate Machine Learning/Computer Vision engineer with a strong background in software engineering and 8 years of experience. Experienced in designing and engineering large-scale data processing systems geared towards both the experimental and deployment ends of machine learning systems. At NOAA, developed and deployed real-time, high accuracy, object detectors and classifiers in aerial population assessment surveys of ice-associated seals and polar bears.

Education

University of Washington

BSC. COMPUTER SCIENCE

📍 Seattle, WA

Graduated Spring 2020

RELEVANT COURSES: SOFTWARE DESIGN & IMPL., DATA STRUCTURES & ALGO., MACHINE LEARNING, COMPUTER VISION, PROGRAMMING LANGUAGES, FOUNDATIONS OF COMPUTING, OPERATING SYSTEMS, EMBEDDED SYSTEMS, SECURITY, NETWORKS, LINEAR ALGEBRA, CALCULUS

Experience

Cooperative Institute for Climate, Ocean, & Ecosystem Studies

National Oceanic and Atmospheric Administration (NOAA) Affiliate

MACHINE LEARNING SPECIALIST

📍 UW - Seattle, WA

June. 2020 - Present

Lead Machine Learning Engineer in Alaska Fisheries Science Center's Marine Mammal Lab. Primarily working within the Polar Ecosystems Program, tasked with the development and deployment of machine learning pipelines, models, and methods for use in aerial surveys.

- Developed and deployed multi-modal detection models & pipelines which run reliably on an airplane reading data from 9 cameras in real-time(2Hz) with overall recall and accuracy over 90% and for some species over 95%.
- Developed camera models for georegistering various angle configurations of the 9 on-board cameras with pixel-level accuracy. Used photogrammetric techniques to accomplish this in an automated manner.
- Collaborated to develop workflows for annotating, reviewing, and evaluating data.
- Developed user interface to enable scientists to batch jobs and run various detection and tracking pipelines.
- Developed ETL pipelines and workflows for data ingestion and standardization before use in ML training pipelines.
- Member of the Marine Mammal Lab's AI Task Force and of Alaska Fisheries Science Center's ML & Computer Vision Community of Practice.

XNOR.AI (Acquired by Apple Inc.)

MACHINE LEARNING RESEARCH INTERN

📍 Seattle, WA

May. 2018 - Dec. 2019

Conducted research with the National Oceanic and Atmospheric Administration (NOAA) and the University of Washington to examine feasibility of using machine learning in real time on aerial surveys of seal and polar bear populations in the arctic. During this internship I delivered models that were deployed in the field showing promising preliminary results and leading to my full-time employment after completing my studies at UW.

Skyline

SYSTEM ANALYST (INTERN 2013-14)

📍 MacCoss Lab, UW - Seattle, WA

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. I developed features that are still used by over 10,000 researchers from all over the world each month.

- Developed 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 from many machines, logging over 10 million records per year. The tool enabled managers and developers to browse, visualize, and better understand the overall stability of the software while having a granular view of the specific areas with stability concerns.
- Developed *Passport*, a web app for researchers to visually browse peptide degradation in protein assays collected in the lab.
- Developed framework for external plugins in Skyline along with an app store hosting user-created applications.
- Developed IDE plugin to aid in software string localization.

🔗 github.com/ProteoWizard/pwiz

Skills

Machine Learning Deep learning, feature engineering, regression, classification, reinforcement learning, transfer learning, clustering, SVM

Languages Python, C, Java, C#, Javascript, SQL, NoSQL

Tools AWS, Docker, Git, Darknet, TensorFlow, PyTorch, Keras, DVC

Libraries NumPy, Scikit-learn, OpenCV, SQLAlchemy, Luigi, Colmap

Interests

⚙️ **Machine Learning**

📺 **Computer Vision**

🧗 **Rock Climbing**