Marcus **Sjolin**

Product and Technical Leader

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Summary of Skills

- Python, C++ and Java
- Databricks and Apache Spark
- Robot Operating System
- Tableau
- Jama
- Jira and Confluence
- Vim
- Git

Work Experience

Embark Trucks Inc. *San Francisco, CA, USA*

Head of Product *September 2020 - Present*

- Founded and grew Product organization to ~25 people (reporting to CTO) and managed both individual contributors and managers
- Built sub-teams for Product Management, Data Science, Systems Engineering, Release Management, Simulation Operations and Triage
- Defined roadmap in Jira with C-suite and Engineering leads to align work of 120+ engineers across Software and Hardware
- Led team of 20+ engineers that built autonomous capabilities to drive in downtown Oakland which led to $295M fundraise in SPAC merger
- Wrote Concept of Operations and Product Requirements to deploy matured trucks into Knight-Swift's fleet as part of the Truck Transfer Program
- Developed company-level North Star metrics and analyses to help improve performance and reliability by several orders of magnitude
- Established requirements management and traceability, as well as V&V criteria for product domains across autonomy and supporting services

Product Lead *August 2019 - September 2020*

- Led special project of 15+ engineers that developed and hardened autonomous features for $70M Series C fundraise led by Tiger Global
- Managed a small team of SWEs and Data Scientists and built code and requirements as an Individual Contributor
- Authored patent application for state machine based automated extraction of on-road driving scenarios written on top of Apache Spark
- Prototyped and analyzed safety metrics like TTC, PET and more in Databricks based on literature like Mobileye's Responsibility-Sensitive Safety
- Established Operational Design Domain (ODD) requirements from analysis of on-road data
- Built pipeline to extract on-road issues and automatically upload to Jira for prioritization and triage

Software Engineer *May 2017 - August 2019*

- Led team of 10+ that built first truck to drive 300+ miles from Phoenix to Los Angeles fully autonomously
- Created a San Francisco test loop for candidates and investors, leading to $30M Series B led by Sequoia
- Developed real-time lane tracking using imperfect lane and object data in both Python and C++ to realize performance improvements
- Built an on-truck diagnostics system to record compute resource utilization across ROS nodes and wrote data pipelines to analyze results
- Re-architected and re-wrote several software nodes to improve timing performance based on compute utilization analysis

WhatsApp Inc. *Menlo Park, CA, USA*

Software Engineer *January 2017 - April 2017*

- Developed inline Emoji suggestions for WhatsApp Web using React to provide simplified Emoji search and discovery
- Implemented proof-of-concept work to connect WhatsApp Web client directly to Android phone over local WiFi network using HTTP server

Wish (ContextLogic Inc.) *San Francisco, CA, USA*

Software Engineer *April 2016 - September 2016*

- Re-architected network and image libraries for all Wish Android apps for rewrite which increased average session length by 10-14%
- Integrated Google Native Ads Advanced on all Wish Android apps and developed related backend server support

Hipmunk Inc. *San Francisco, CA, USA*

Software Engineer *September 2015 - December 2015*

- Overhauled UI and functionality of the Hipmunk Android app to allow users to plan and book trips as part of Hipmunk Discover

Pebble Technology Corp. *Palo Alto, CA, USA*

Android Software Engineer *January 2015 - May 2015*

- Developed Android support for Calendar and Weather features on the Pebble Time smartwatch using The Weather Channel API

Projects & Distinctions

Drivable Surface Detection *ECE 457B (Waterloo, Canada)*

Python, TensorFlow, NumPy *April 2018*

- Implemented a SegNet (using VGG) deep convolutional neural network to detect drivable surface using a fusion of camera and LiDAR data

Berkeley Artificial Intelligence Course *edX (Online)*

Python – Constraint Propagation, Markov Decision Processes etc. *January 2015 - May 2015*

Stanford Machine Learning Course *Coursera (Online)*

Python, Octave – Logistic Regression, SVMs, Clustering etc. *June 2014 - September 2014*

Education

University of Waterloo *Waterloo, ON, Canada*

Bachelor of Software Engineering, Honors, Co-op *2018*