## Stanley M. Bileschi

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## **Education**

Massachusetts Institute of Technology Ph.D. Artificial Intelligence: <u>Thesis : Hierarchical models for computer vision</u>. Advisor Tomaso Poggio

University at Buffalo BS Computer Science & BS Electrical Engineering with 4.0 undergraduate GPA National Science Foundation Fellow - 2000

# Work Experience

## Google

### Google CoreML (Staff Software Engineer)

- Lead: "CoreML Evaluation Infrastructure"
  - Organized 14 reports including indirects, plus virtual teams in Google DeepMind and Cloud.
  - Goal: Standardize Google's infrastructure for authoring, executing, and analyzing LLM quality evals
  - Results:
    - Delivered common infrastructure abstractions supporting 100s of users across Gemini & Bard
    - Connected LLM evals to Google's common CI/CD system. Zero customer cost
  - Skills: Large language models; Prompting; System design; multi-VP coordination & negotiation
- Lead: "ML Train-time analytics infrastructure"
  - Goal: Dev velocity and engineering satisfaction for ML model developers
  - Results:
    - Elevated TensorBoard to top tool by satisfaction at Google, including TB.corp 5k WAU at Google
    - 29M TensorBoard OSS downloads/month. Used at Meta, OpenAI, Twitter, HuggingFace
  - Skills: OSS/internal hybrid systems; ML workflow; Bureaucratic maneuvering
- Lead: "TensorFlow Usability"
  - Goal: Migrate Google from legacy `dist\_belief` to new TensorFlow. Reduce TF dev costs
  - Results:
    - Turned down <u>dist belief</u>. Migrated 16 major teams from dist\_belief to TensorFlow including several billion-user products in other PAs such as Ads, YouTube and Cloud.
    - "This is great work, complex because of the large number of users and careful work required to migrate real production ML systems to a new ML platform" Jeff Dean, Google Chief Scientist
    - Improved error messaging for TensorFlow devs.
    - Delivery of TensorFlow JS.
    - Skills: ML Frameworks; Usability studies; Python; Rust; TypeScript & Redux
- Manager / Lead
  - Results: managed a group of teams totaling 14 ICs. Managed sub-managers
    - 95% favorable anonymous feedback
    - "Stan has set up the structure of the team well. I like the process used to prioritize and assign projects. I also appreciate that Stan always attempts to get feedback on these processes in order to keep improving them. Both the process and the attempts for feedback show me that I have a real say in setting the direction of the product." – Anon feedback sample from report 2022
  - Managerial skills:
    - Culture-building; Coaching; Performance mgmt (both high and low); Motivation; Mentoring Leadership skills:
      - Vision; Milestones; Project funding and assignment; Founding, structuring & focusing teams

09/2000—05/2006

09/1996-05/2000

07/2012—current 09/2016—current

- Play Store Autocomplete
  - Goal: Simplify infrastructure merging **search** autocomplete across Apps, Books, Movies, Music
  - Results: Transformed a 60k QPS monolith into a modular search stack. Each sub-business now owns their own indexing, scoring, and presentation layer, allowing independent evolution.
  - Skills: Search infrastructure; Big Data; Multi-team negotiation
- Play Store Search & Discovery
  - Goal: Search and Discovery Revenue & Customer Engagement
  - Results:
    - Developed and launched "Similar Apps" and "Users also Installed".
      - +3% overall store revenue(now a \$10B business)
  - Skills: Map-Reduce; Embedding; Collaborative filtering; C++

#### Google Flights (Software Engineer)

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- QPX Hacker (Post ITA acquisition)
  - Results:
    - Migrated ITA from their SVN repo (100s of devs, 10+ yrs of code) to Google's common P4 repo.
    - Wrote '<u>lisp koans</u>'
  - Skills: Lisp; Python; Revision control system details

#### DataXu

#### **ML Dev**

- Goal: Ads trading strategies powered by ML models
- Results: Developed a strong competitor using ML for real-time ad auctions company sold to Roku
- Skills: ML; Big data; Ad tech

#### Bileschi Intelligence Services LLC

#### Small business owner / ML application developer

- Developed ML applications for start ups & media companies
  - MLB.com : Video tagging
  - DataXu : Ad tech
  - Vistacon Technologies : Vision tech for retail
  - ScanScout.com: Video tagging technology
  - Affine Systems: Deployable face detection technology
- Developed ML applications for defense companies
  - BAE Systems : Object detection from satellite imagery
  - Raytheon : Anomaly detection
  - Lockheed : Road network analysis
- Skills: ML; Customer relationship building; Financing & Sales

## **Selected Publications**

**Books** 

\* denotes first author, \*\* denotes single author

Deep Learning with JavaScript: Neural networks in TensorFlow.js, Manning Publishing,	2020
Selected Conference Papers [Full list on Google Scholar]	
**Fully automatic calibration of lidar and video streams from a vehicle. <u>ICCV</u>	2009
**Object detection at multiple scales improves accuracy. <u>ICPR</u>	2008
Perception strategies in hierarchical vision systems. CVPR	2006
* A Unified System For Object Detection, Texture Recognition, and Context Analysis Based on the	Standard
Model Feature Set. <u>BMVC</u>	2005
Journal Articles	

Robust object recognition with cortex-like mechanisms. <u>PAMI</u> A critical view of context. <u>JJCV</u> 09/2009-07/2012

05/2006-09/2009

07/2012—12/2013

#### Thesis

StreetScenes: Towards scene understanding in still images. <u>MIT Ph.D. Thesis</u>

#### **Open Source**

TensorBoard (6.7k $\bigstar$ ) [<u>60 commits</u>] TensorFlow.js (18.1k $\bigstar$ ) [<u>40 commits</u>] Lisp Koans (3.1k $\bigstar$ ) [<u>21 commits</u>] [<u>foundation</u>] 2019—current 2018—2019 2013