

## Contact

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# Brad Neuberg

Senior Full Stack Machine Learning Engineer  
San Francisco, California

## Summary

I am a full stack machine learning engineer, with 15+ years experience across startups, open source, and companies like Google and Dropbox.

Most recently I've been on the Machine Learning team at Dropbox, doing industrial R&D to ship ML-powered products to millions of users. Recent work at Dropbox has included launching features that automatically run advanced deep learning models on billions of images a day; building an industry leading OCR pipeline using deep learning for millions of users; and doing R&D using deep learning for features such as meeting assistants and intelligent file systems. I'm currently on sabbatical from Dropbox to focus on education and raising my daughter.

I am passionate about innovation. I have a long history of untraditional R&D across many kinds of organizations, including open source, startups, and large companies like Dropbox and Google. I created Coworking, which morphed into an international grassroots movement to establish a new kind of workspace for the self-employed, with more than 10,000 coworking spaces now open internationally. At Inkling I founded Inkling Habitat, which re-imagined interactive digital textbooks for higher education and how they are published by adopting ideas from computer science. Inkling Habitat turned into a multi-million dollar business that was adopted by the world's major educational publishers, such as Pearson.

Both in the open source community and while at Google I helped the web blossom into a true application deployment platform; I had the first libraries for Ajax history management, client-side storage, and offline web applications, for example, all of which fed into the creation of HTML5. Other notable projects include working with Douglas Engelbart, the inventor of the computer mouse and hypertext, on the NSF-funded HyperScope project to use advanced

hypertext to support collaborative teams, and creating one of the first web-based RSS aggregators to re-think news.

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## Experience

### Dropbox

Full Stack Senior Machine Learning Engineer, Machine Learning Team  
2014 - 2018

San Francisco

Tech lead on AutoOCR project to automatically extract searchable information from billions of images using Python, TensorFlow, performance optimized deep neural networks, event processing & distributed queues, etc. Launched to millions of users.

Created industry leading OCR deep learning network using bi-directional LSTMs, CNNs, and CTC in TensorFlow and Python, using large-scale data augmentation to efficiently do supervised training. Took project from scrappy prototyping/research to software engineering development to full scale large release to millions of users.

R&D on making real-world, multi-participant meetings more efficient via intelligent assistants, speaker identification, multi-speaker speech to text, searching meeting audio, etc. Also R&D on intelligent file systems, predicated on the idea of a "Siri for Organizations", with advanced multimedia search, auto-organizing files, etc.

### Ongoing Education

Ongoing Education & Projects

2014 - Present

Projects:

[2016] Cloudless, open source deep learning pipeline to create segmentation masks for obscuring clouds in orbital satellite data. Pipeline includes annotation tools, training on Amazon EC2, GPUs, and Caffe; and deriving bounding boxes via Selective Search algorithm.

[2015] Personal Photos Model, used Labelled Faces in the Wild (LFW) dataset to train Siamese neural network to learn distance embedding function, then used transfer learning on the trained model for much smaller set of a user's personal photos for clustering people.

Courses: [2018/2019] "Linear Algebra", Prof. Gilbert Strang, MIT OpenCourseWare; [2017] "Deep Reinforcement Learning Bootcamp", Pieter Abbeel et al, Berkeley; [2016] "Advanced Topics: Reinforcement Learning", David Silver, University College London; [2014] "Neural Networks", Geoffrey Hinton, Coursera; [2014] "Introduction to Machine Learning", Andrew Ng, Coursera

## Inkling

Senior Software Engineer/Tech Lead

2010 - 2014

San Francisco Bay Area

Founded Inkling Habitat and tech led 20 person team. Inkling Habitat re-imagined interactive digital textbooks for higher education and how they are published by adopting ideas from computer science, treating books as software. Inkling Habitat grew into a business worth millions and was adopted by all the major educational publishers in their publishing pipelines (Pearson, Elsevier, etc.).

Created strong engineering culture focused on full test coverage, mentorship, code reviews, agile development, rapid deployments, UX and product focus, user empathy, and rapid testing through light-weight prototypes.

Architected and built very advanced browser-based application while also guiding 20 person team (JavaScript, Python, Backbone.js, Underscore.js, SASS, HTML5, CSS3, etc.)

## Google

Software Engineer/Developer Advocate

2007 - 2010

Software engineer on Google Docs and social efforts (JavaScript, Java, distributed computing, etc.)

Evangelized HTML5 to industry and with others helped make it widely known. Worked on efforts to push the web forward, such as Google Gears and SVGWeb, that were later either incorporated into HTML5 or helped support the Open Web.

## Various

Earlier Selected Roles/Projects

2004 - 2007

San Francisco Bay Area

Coworking - Inventor (2005 - present) - Invented, started, and evangelized coworking, an international movement focused on collaborative workspaces that combine the freedom and independence of self-employment with the structure and community of traditional jobs. There are now more than ten thousand coworking spaces worldwide.

Douglas Engelbart/Bootstrap Foundation - Senior Software Engineer (2006 - 2007) - Worked with Douglas Engelbart, the inventor of the mouse, hypertext, and more, on NSF funded HyperScope project to use advanced hypertext to support collaborative teams (JavaScript, Java, XSLT)

Dojo Offline/Dojo Storage/Really Simple History - Creator (2005 - 2007) - Secured funding, did R&D, and delivered first open source toolkit for offline web applications. Created first Ajax library for persisting storage on client-side, as well as first Ajax library for dealing with bookmarking and dynamic history support. Experience from these toolkits helped influence HTML5 standard.

Rojo - Full Stack Engineer (2004 - 2006) - Designed and implemented one of the first advanced, web-based RSS aggregators (Java, SQL, etc.)

Internet Archive - Software Engineer/Consultant (2005) - Helped create first iteration of OpenLibrary.org, bringing millions of books to users in the browser.

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## Education

Columbia University

B.A., Computer Science

Science Academy of South Texas