

Taylor Kang Beck

MACHINE LEARNING · DISTRIBUTED SYSTEMS

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Summary

Software engineer deploying machine learning models in production environments, with a focus in natural language. Experience in building automated ML data pipelines, using deep neural networks at scale within large software systems, and developing delightful user experiences. Passionate about using data to develop human-centric solutions. Looking to transition into a more scientific research role.

Work Experience

Amazon.com, Inc.

Seattle, WA

SOFTWARE ENGINEER - ALEXA SHOPPING ML PLATFORM

Aug 2016 - Present

- Contributed to an automated model training and deployment pipeline for deep neural networks in NLP applications.
 - > Led the implementation of a new model-service in Python, supporting Whole Foods experiences on Alexa for millions of customers.
 - > Enabled scalability of model-hosting-as-a-service via templates and code generation, saving weeks of dev time per model.
- Developed a secure dataset storage system with low-latency multiprocessed data transfer on top of AWS technologies.
 - > Decreased data transfer time by 3x and upgraded encryption methods to handle critically confidential customer data.
- Built an unsupervised probabilistic graphical model with numpy for suggesting related shopping queries and turned it into a service.
- Practiced crowd annotation techniques for building datasets as well as statistical analysis to produce useful features.
- Delivered features for a conversational agent/chatbot that interfaces between customers and Amazon's massive product catalog.

Amazon.com, Inc.

Seattle, WA

SOFTWARE ENGINEERING INTERN - KINDLE FOR ANDROID

May 2015 - Aug 2015

- Created new user experiences using Java for the Kindle app on Android, focusing mostly on intra-document linking and footnote navigation.
- Collaborated with peers across multiple teams to define requirements, design APIs, and test feature compatibility on many device types.

Vanderbilt University

Nashville, TN

RESEARCH ASSISTANT - MEDICAL-IMAGE ANALYSIS AND STATISTICAL INTERPRETATION LAB

Jan 2015 - May 2015

- Manipulated CT scans to produce a training dataset for a convolutional neural network performing organ segmentation.
- Contributed to an interactive prototype for an educational Augmented Reality exhibit, using a Kinect camera to map 3D models of organs onto a user's image in real-time.

RVU Records

Nashville, TN

STUDIO DIRECTOR, AUDIO ENGINEER

May 2014 - May 2015

- Appointed and led a staff of 30+ that implemented training programs, ran recording sessions, and conducted artist and fan outreach
- Delivered a studio compilation album (physical and digital release) and developed the studio's website.
- Organized live concerts and events and managed the studio budget.

Skywire, Inc.

Las Vegas, NV

MOBILE APP DEVELOPMENT INTERN

May 2013 - Aug 2013

- Independently developed a cross-platform mobile app (web, Android, iOS) for an SMS-based marketing service. Published to app stores.
- Added new operations to public-facing developer API and wrote documentation.

Education

Vanderbilt University

Nashville, TN

B.S. IN COMPUTER SCIENCE, MINOR IN ENGINEERING MANAGEMENT

Aug 2012 - May 2016

- Artificial Intelligence I & II, Machine Learning, Neuroscience, Big Data, Human-Computer Interaction

Skills and More

Personal Projects

- ML: Lip-reading + acoustic speech recognition system, Journaling app with sentiment analysis, entity recognition, and data visualization
- Art installations: Water+LED color towers, Playable piano staircase, Meditation chamber with focal light circle to guide breathing
- Mobile: Voter outreach SMS system, Group decision-making app, SMS-based encryption app

Languages, Libraries, Frameworks

- Python, Java, C++, Ruby, Javascript
- Python libraries: pandas, numpy, mxnet, keras, theano, scikit-learn, seaborn, matplotlib, hypothesis, spacy
- AWS stack, Jupyter notebooks, Android, SQL, MapReduce

Self-driven learning

- fast.ai, Python for Machine Learning, 6-week classes at Amazon (Math for ML, Data Science, Regression, RNNs), David Silver's RL Lectures

Interests

- I like systems thinking, both in software and in people. Music has always been a passion; I make noises on my computer and DJ sometimes.
- My house is full of notes scribbled on various whiteboards, papers, and apps. I dream about connecting them all together.