

# CALVIN CHI

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<b>CONTACT</b>	calvin.t.chi@gmail.com (626) 203-1829	<a href="https://calvintchi.github.io">https://calvintchi.github.io</a>
<b>EDUCATION</b>	<b>University of California, Berkeley</b> Ph.D., Computational Biology	2015 - 2020
<b>INDUSTRY</b>	<b>Applied Scientist II at Amazon</b> <ul style="list-style-type: none"><li>Developed and helped deploy the first deep learning system of Amazon Advertising's Demand-side Platform's (DSP), leading to 5.11MM increased conversions (annualized) for advertisers.</li><li>Conducted applied research on a multitask learning solution that achieves parity on AUC performance compared to existing single-task models.</li><li>Designed and deployed new user features for deep learning model; online A/B experiment showed model improvement saves up to 7.85% in cost per conversion for advertisers.</li></ul>	Aug 2020 - present
	<b>Applied Scientist Intern at Amazon</b> Developed LSTM-based deep learning model for credit abuse classification for Amazon Business, estimated to reduce credit write-off loss by 20%; pushed ~1,000 lines of Python and SQL code for data and model development.	May 2019 - Aug 2019
<b>SKILLS</b>	<b>Programming:</b> Python, R, SQL, Java, Bash, Matlab, HTML, CSS, Javascript, C, Scala <b>ML frameworks:</b> PyTorch, Trax, TensorFlow, Scikit-Learn, H2O <b>Graduate coursework:</b> Convex Optimization, Computer Vision, NLP, Deep Reinforcement Learning, Linear Models, Data Structures, Algorithms, Database Systems	
<b>PUBLICATIONS</b>	Chi, Calvin, et al. "Identification of Sjögren's syndrome patient subgroups by clustering of labial salivary gland DNA methylation profiles." Plos one 18.3 (2023): e0281891.  Chi, Calvin, et al. Bipartite graph-based approach for clustering of cell lines by gene expression-drug response associations. Bioinformatics (2021).  Chi, Calvin, et al. Hypomethylation mediates genetic association with the major histocompatibility complex genes in Sjögren's syndrome. Plos one 16.4 (2021): e0248429.  Chi, Calvin, et al. Admixture mapping reveals evidence of differential multiple sclerosis risk by genetic ancestry. PLoS genetics 15.1 (2019): e1007808.	
<b>PROJECTS</b>	<b>Embedding-Augmented Deep CNN for PubMed Journal Recommendation</b> <ul style="list-style-type: none"><li>Journal detection from PubMed abstract with 415,381 programmatically-collected abstracts.</li><li>Compared multitask and embedding-augmented CNNs with output space of 1,548 journals.</li><li>Best performance when CNN input augmented with topic and impact factor embeddings, with accuracy 23.7% and 90% of true journals in top 60 recommendations.</li></ul>	Dec 2018
	<b>Data Augmentation using GAN for Breast Cancer Classification</b> <ul style="list-style-type: none"><li>Synthetic data augmentation using DCGAN to improve histology breast cancer classification with Resnet-18 re-trained on 5,547 breast histology images.</li><li>Augmentation with 400 DCGAN images improved prediction accuracy and precision by 5% and 12% respectively, but decreased recall by 15%.</li></ul>	May 2018
	<b>Bearmaps</b> Mapping application in Java with rastering with quad tree, routing via A* algorithm, and location search with autocompletion with a trie ( <a href="http://calvin-bearmap.herokuapp.com/map.html">http://calvin-bearmap.herokuapp.com/map.html</a> )	Apr 2016
<b>AWARDS</b>	NSF Graduate Research Fellowship	Mar 2017