

Vanessa Lin

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Education

University of California, Berkeley

B.A. Computer Science, B.A. Applied Math | GPA: 3.77/4.00 | Activities: UPE: CS Honors Society, EECS Honors Program

Berkeley, CA

August 2017 - May 2021

- Completed Coursework: Machine Learning, Operating Systems, Database Systems, Artificial Intelligence, Computer Vision, Deep Neural Networks, Algorithms, Data Structures, Machine Structures, Discrete Mathematics and Probability, Multivariable Calculus, Linear Algebra, Real Analysis, Numerical Analysis, Complex Analysis, Abstract Algebra

Experience

Google

Software Engineer

- Working on models with Play Ads Quality

Mountain View, CA

June 2021 - Present

Google

Software Engineering Intern

- Built a DNN and a logistic regression model with Keras to perform binary classification on quality to help advertisers better understand their advertisements' effectiveness and recommend improvements, as part of Search Ads
- Constructed a parallel data-processing pipeline, using a Map Reduce service and C++, to generate ground truth data

Mountain View, CA

May 2020 - August 2020

RISELab: Real-time Intelligent Secure Explainable

Undergraduate Researcher | Electrical Engineering and Computer Science Dept

Berkeley, CA

Visual World DB

- Designing and building a high-level API for users to process and query video data, such that the architecture is optimized for multi-video applications, mentored by Maureen Daum, PhD candidate, Brandon Haynes, PhD, and Prof. Alvin Cheung

August 2020 - June 2021

Koopman Theory and Autoencoders

- Exploring stability using linear algebra techniques, recurrent neural networks, and physically-based variational autoencoders with postdoctoral fellow, N. Benjamin Erichson and Prof. Michael Mahoney

August 2019 - June 2021

E-mission

- Designed a study that promotes sustainable transportation habits around campus and the city of Berkeley and looks at normative behavioral patterns towards automated suggestions using the E-mission platform under K.Shankari, PhD candidate, Prof. David Culler, and Prof. Randy Katz

February 2018 - August 2019

Google

Engineering Practicum Intern

- Developed a hotel cancellation feature in which users will be able to use for Book on Google, which is a platform that facilitates hotel booking on Google without breaking the search flow, and reduced no-show rate of 3% to 0.5%
- Facilitated the process of hotel cancellation for users by constructing a server to manage the transfer of information between a user's cancellation request to cancelling the booking through partner APIs, using Java and Google Web Server

Cambridge, MA

May 2019 - August 2019

Sandia National Laboratories

Research and Development: Software Developer Intern

- Developed an interactive data collection web app for the game SIGNAL (<https://pong.berkeley.edu/e-game/>) for proctors to input data collected from board game rounds and facilitate analysis of nuclear deterrence and conflict escalation
- Built application with React and MongoDB to keep track of diplomatic and economic actions for further data analysis
- Added capabilities to a web app (Capabilities Development Framework) for the DHS, using OpenLayers, GeoServer, SQL, JavaScript, and PHP, to incorporate live data-streaming with temperature data

Livermore, CA

June 2018 - August 2019

Publications

Forecasting Sequential Data using Consistent Koopman Autoencoders

Omri Azencot*, N. Benjamin Erichson*, **Vanessa Lin**, Michael W. Mahoney

Accepted to ICML 2020

In this work, we propose a novel Consistent Koopman Autoencoder model which, unlike the majority of existing work, leverages the forward and backward dynamics. The key to our approach is a new analysis that unravels the interplay between consistent dynamics and their associated Koopman operators.

Demonstration of Apperception: A Database Management System for Geospatial Video Data

Vanessa Lin*, Yongming Ge*, Maureen Daum, Alvin Cheung, Brandon Haynes, Magdalena Balazinska

Accepted to VLDB 2021

We present Apperception, a new type of database management system optimized for geospatial video applications. Apperception comes with an easy to use data model to reason about multiple geospatial video data streams, and a programming interface for developers to collectively reason about the entities observed in those videos.

Skills and Qualifications

Languages/Libraries

Python, Java, C++, SQL, HTML/CSS, JavaScript, PHP, TensorFlow, PyTorch, Android, AWS, Git, Bash, LaTeX, Vim