

ADRIAN S ROMAN

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EDUCATION

University of California Davis 2016 - 2020

Bachelor of Science in Computer Science.

Bachelor of Science in Mathematics.

Stanford University Jun - Aug 2018

Intensive Studies in Data Science Certificate.

RELEVANT COURSEWORK

Stanford University *Graduate-Level Courses* Jun - Aug 2018

- Statistical Learning: supervised and unsupervised algorithms for predictive and descriptive learning.
- Data Mining: implementation of data mining tools for developing useful and actionable data.

University of California Davis *Upper Division Courses* 2016 - 2020

- Recommender Systems: collaborative filtering and content-based selection methods.
- Operating Systems: study of operating systems and system programming.
- Data Structures & Algorithms: analysis and design of data structures using C++.

EXPERIENCE

Software Development Intern - Oscilloscope, LLC Jun - Present 2019

- Lead developer of an innovative iOS mobile app to provide therapy for language pathologies.
- Designed an AI algorithm to synchronize a metronome with a user's spontaneous tapping rate.
- The mobile app provides a rhythmic therapy to train synchronization in lieu of rhythmic interactions with human therapists.

RESEARCH

Dynamical Model of Interpersonal Synchronization & Endogenous Rhythms 2018 - 2019

- Designed a network of non-linear oscillators to model how matching or mismatching spontaneous tapping rates affect synchronization between individuals in a musical task.
- Performed physical modeling with ODEs and applied Fourier analysis to design the network.
- Wrote AI algorithms in Python to model adaptive synchronization between oscillators.

Search Engine to Determine Relevance of Documents Aug 2018

- Implemented AI algorithms that return documents from users' search queries in order of relevance.
- Identified and extracted relevant features from a large dataset to enhance the accuracy of algorithms.

PROGRAMMING PROFICIENCIES

C++ C Python Matlab R Swift Objective-C JSON L^AT_EX

CONFERENCE PRESENTATIONS

Spoken presentation - Society for Music Perception and Cognition (SMPC) Aug 2019

- **Roman, A. S.**, Roman, I. R. (2019). Individual Musician's Spontaneous Performance Rates Affect Interpersonal Synchronization in Joint Musical Performance: A Dynamical Systems Approach.

AWARDS

Undergraduate Travel Award at UC Davis May 2019

- Funding to travel and present research at SMPC conference held in New York University.