Allison Austin

Website — Google Scholar — Email

EDUCATION

PhD, Computer Science 2023 - Present
University of California, Davis
Advisor: Dr. Kwan-Liu Ma

BSc, Computer Science 2019 - 2023
California State University, Long Beach
GPA: 3.93

PUBLICATIONS

B. Fu, **A. Austin**, and M. Garcia. *Visualizing Mappings Between Pairwise Ontologies - An Empirical Study of Matrix and Linked Indented List in Their User Support During Class Mapping Evaluation.* In Proceedings of the 22nd International Semantic Web Conference (ISWC 2023), LCNS, Springer, 2023

RESEARCH EXPERIENCE

Graduate Student Researcher Oct 2023 - Present
UC Davis Visualization and Interface Design Lab

- Researched methods for anomaly detection in HPC system data for monitoring and root cause analysis of hardware failure.
- Experimented with different streaming visualization designs for displaying variation in sensor readings using different functional data analysis techniques.

Research Assistant Aug 2022 - May 2023
CSULB Data Semantics and Human-Data Interaction Lab

- Conducted user study of the matrix and the linked indented list visualizations in their visual support for users during human evaluation of class mappings established between pairwise ontologies.
- Designed and executed task-based experiments with 81 participants while obtaining data from Gazepoint eye tracker.
- Evaluated the extent to which a given visualization supports recognition of visual cues, validation of existing mappings, and creation of new results using eye tracking data, task success, and task completion time.

INDUSTRY EXPERIENCE

Data Engineer Intern May 2021 - Aug 2023
Nihon Kohden Digital Health Solutions Irvine, CA

- Researched methods for fitting time-series data and classification of alarm thresholds for reducing alarm fatigue.
- Improved usability and performance of real-time and historical medical data visualization applications based on feedback from health care professionals.
- Currently awaiting patent approval for alarm data storage engine and simulation algorithm.

Data Engineer Intern May 2022 - Aug 2022
Amazon Seattle, WA

- Migrated large-scale ETL pipeline to Native AWS for real-time workforce management and analytics software.

PROJECTS

LSTMs for Multi-Step Time Series Forecasting Fall 2023

- Researched methods for improving accuracy of long short-term memory (LSTM) recurrent neural networks in multi-step time series forecasting (batch-overlap, encoder-decoder).
- Compared accuracy and forecast fit results from multi-step prediction to baseline.

Holistic Data Integration Fall 2022

- Researched solutions to query processing on heterogeneous data stores (data federation/ontology-based data access/tensors).

- Worked with undergraduate student peers and Professor Malik Luti to develop a query execution engine, SmallDAWG.

Heart Failure Survival Analysis Spring 2022

- Implemented Cox Regression to predict survival probabilities of death events from heart failure dataset.
- Plotted Kaplan-Meier Fitter of different features to test significance of variables.
- Analyzed the cost/benefit of using baseline hazard function in Cox model.

AWARDS AND GRANTS

UC Davis Computer Science Department Fellowship 2023
California State University's Program for Education and Research in Biotechnology (CSUPERB) 2022

COMMUNITY INVOLVEMENT

2023 BEACH Women in Engineering Conference, *Volunteer* April 2023
COE/CNSM Transfer Student Panel, *Speaker* March 2023
CSULB Women in Computing (WiC) Sisterhood, *Mentor* Aug 2022-May 2023
2022 BEACH Women in Engineering Conference, *Volunteer* April 2022
Mathematics, Engineering, Science Achievement (MESA), *Volunteer* March 2022
Louis Stokes Alliance for Minority Participation (LSAMP), *Member* Feb 2022-May 2023
CSULB CS Undergraduate Student Advisory Board, *Volunteer* Feb 2022
CSULB Women in Computing (WiC), *Treasurer* Aug 2021-May 2022
MarinaHacks, *Design Committee Volunteer, Sponsorship Committee Lead* Jan 2021

SKILLS

Data Visualization	D3.js, Canvasjs
Machine Learning	Scikit-learn, TensorFlow, Keras
Data Engineering	AWS, Apache Spark, MySQL, PostgreSQL, MariaDB
Programming	Python, Java, C, C++, MATLAB, R
Other	Gazepoint, CMake

REFERENCES

Dr. Kwan-Liu Ma
Distinguished Professor of Computer Science at UC Davis
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Dr. Bo Fu
Boeing Endowed Professor of Computer Science at CSULB
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Dr. Dongyu Lu
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