

# Yihua Liu

Email: yihua@yihualiu.com Telephone: (561) 414-5124

## Education

University of Central Florida

Master of Science, Statistical Computing

January 2015 to December 2016

University of California, Berkeley

Bachelor of Arts, Mathematics

August 2008 to December 2011

## Work Experience

SimIS, Inc.

Data Scientist II

August 2018 to Present

- Improved learner behavior prediction accuracy from 21% baseline (recommended next action) to 66% on unseen test data via long short-term memory recurrent neural network (LSTM RNN) model
- Predicted course completion with Matthews correlation coefficient 0.51 using Experience API (xAPI) student log data and built corresponding explanatory model via factor analysis
- Co-authored e-learning metadata analytics strategy distributed across the Department of Defense and chaired stakeholder working group on its adoption and implementation
- Created and maintained key analytics deliverables, including interactive Tableau dashboards, for client leadership and project principals

VONLY

Business Analyst

June 2017 to February 2018

- Designed proprietary machine learning model to predict sales by assessing digital media storefront placement quality, achieving 91% correlation (82%  $R^2$ ) on unseen test data
- Composed Python and SQL scripts to automatically extract and transform model features from multiple databases to deliver real-time updates to users
- Crafted and executed test cases to ensure data integrity of MySQL databases comprising billions of records

Berida, Inc.

Data Analyst

November 2013 to January 2015

- Oversaw online storefront A/B testing campaign that boosted monthly revenue by 13%
- Refined market segmentation strategy for business-to-business expansion

Accenture

Business Analyst

April 2012 to November 2013

- Eliminated test case redundancies via Excel data analysis, cutting testing time by nearly 15%
- Led deliverable review sessions with high-level stakeholders across multiple teams to ensure business requirement compliance

## Portfolio

Educational outcomes classification

[github.com/yihualiu/education](https://github.com/yihualiu/education)

- Predicts high school graduation and college entrance examination status based on student data from kindergarten through third grade

Political news headline analysis

[github.com/yihualiu/headlines](https://github.com/yihualiu/headlines)

- Examines trends and sentiments in headlines leading up to the 2016 presidential election

*With Uncertainty Comes Opportunity: Solving the DoD's Flash Problem*

Liu, Y., & Hayden, T.

- Paper to be presented at the 2019 Interservice/Industry Training, Simulation, and Education Conference

*The Advanced Distributed Learning Capability Maturity Model*

Liu, Y., Malone, N., Hernandez, M., & Reardon, A.

- Paper presented at the 2019 iFEST Conference

## Skills

Python (scikit-learn, Keras, TensorFlow, statsmodels, pandas, NumPy, matplotlib, spaCy, NLTK), R, SQL, Tableau