

## SUMMARY OF QUALIFICATIONS

Data Scientist with a solid background in Software Engineering.

- Recent graduate of UC Berkeley's Master of Information and Data Science program, with a 3.97 GPA.
- Experienced in software development, including full stack web apps, technical leadership and product design.
- Outstanding in learning new technologies. Creative and analytical with strong problem solving skills.
- Awarded Fulbright scholarship for a software engineering master degree and computer science graduate studies.

### Technical skill highlights

**Languages:** Python, R, Java, JavaScript, HTML, CSS, C++.

**Data Storage:** Hadoop/Hive, MySQL, Postgres.

**Tools:** Git, Eclipse, Tableau, Amazon AWS, Google Cloud.

**Frameworks:** MapReduce, Apache Spark, PySpark, Spark Storm, Tensorflow, Keras, *Scikit-learn*, D3, JQuery, JSON, Bootstrap, Vue JS, Android SDK, Web REST, Java EE, Struts.

## EDUCATION

### University of California, Berkeley

Master of Information and Data Science, May 2018, GPA: 3.97

### George Mason University

M.S. in Software Systems Engineering, VA, GPA : 3.9

### Rutgers University

Computer Science Graduate Courses, NJ, 19 credits, GPA : 3.8

### National Engineering University

B.S. in Systems Engineering, Peru, Valedictorian

UC Berkeley Data Science Courses	GR
Research Design and Application for Data and Analysis	A
Statistics for Data Science	A+
Architectural Components for Storing and Retrieving Data	A+
Applied Machine Learning	A
Machine Learning at Scale	A+
Natural Language Processing with Deep Learning	A+
Data Visualization	A
Experiments and Causal Inference	A+
Synthetic Capstone	A-

## ACADEMIC PROJECTS

- **IDANN (Interpretable Deep Attention Neural Networks) Triage.** UC Berkeley May 2018. ([github](#))  
[IDANN Triage](#) helps emergency departments to prioritize patients significantly ill by predicting critical outcomes. It utilizes deep neural networks with an attention layer for interpretability, capturing 37.4% more critical outcomes. My contributions: project proposal and leadership, data preprocessing, deep learning models with interpretation, visualizations and js API. (Tools: python, scikit-learn, tensorflow, keras, google cloud, js, bootstrap)
- **Twitter Field Experiment on influencing sentiment against the flu shot.** UC Berkeley, December 2017. ([github](#))  
Built a real time system that detected tweets against the flu shot, using CNN and LSTM deep learning models with attention and embeddings. Tweets were randomized into control and treatment groups for tweet replies. The study's outcome was: tweet engagement rates. My contributions: deep learning models for natural language processing, automatic tweet replies and pipeline QA. (Tools: python, scikit-learn, tensorflow, keras, google cloud)
- **Classifying medical notes into ICD-9 codes using Deep Learning models.** UC Berkeley, August 2017. ([github](#))  
Investigated classification of patient discharge notes into standard disease labels (ICD-9). Implemented deep learning models (CNN, LSTM and Hierarchical models) using embeddings and attention. The CNN-ATT model outperformed previous work. My contributions: project proposal, leading implementation and building deep learning models using the MIMIC III dataset. (Tools: python, sql, keras, tensorflow, google cloud)
- **Twitter data mining to detect adverse drug reactions (ADRs) .** UC Berkeley, December 2016. ([github](#))  
Built a system that detected spontaneous ADRs from tweets and compared them to FDA data. My contributions: Project proposal, Twitter batch data ingestion using web content scrapping, Twitter streaming using Apache Storm and twitter APIs, storing/querying data in sql DB, and machine learning model implementation.

- **Mobile application to foster social support on acquiring new healthy habits.** MITx-edx, April 2014. ([github](#))  
Built an Android Mobile Application, including generative research, design, implementation and field evaluation. The App connected to Liferay as the server backend for message boards and image library repositories.

## PROFESSIONAL EXPERIENCE

### **George Washington University, Biostatistics Center. Rockville MD, 2006 – Present**

*Lead Software Engineer (2008-present), Senior Software Engineer (2006 - 2007)*

The Biostatistics Center is a research facility and coordinating center for large scale multi-center clinical trials.

- Led team of 7 developers through incremental software development. Designed architecture modifications.
- Designed dozens of new features for MIDAS, home-grown application for clinical trial data management. MIDAS accommodates studies' diverse functionality by using its rule scripting framework that lets studies specify their own rules at different points of the clinical data management flow, e.g.: eligibility, data validation, safety monitoring, etc. MIDAS allows custom reports, workflows and security roles as well.
- Feature implementations were successful. They were the key factors for the Center to stay with MIDAS vs. moving to a commercial application, a decision made by an appointed committee after a thorough evaluation. Studies presented in conferences: "it offers time savings, consistency, and ensure a high degree of data validity", regarding medical events monitoring: "18% reduced time (median) from assignment to adjudication", "doubled the average number of adjudications per month", "improved communication".
- Coordinated prioritization of requirements with principal investigators and research assistants. Gathered requirements, led design cycles based on user's feedback and coordinated user acceptance testing.
- Prepared materials and delivered presentations about AI and its impact on healthcare and clinical trials.
- Led selection of a web application for content management and its customization. Liferay was selected.
- Programmed main core modules in MIDAS and Liferay customizations as the explorer lead software engineer.
- Received excellent performance evaluation reviews as well as reward bonuses.

Tools: Java, JavaScript, Vue js, Ajax, Jquery, HTML, CSS, JSON, REST Web services, Java J2EE, Struts, Mysql.

### **Oberthur Card Systems. Chantilly VA, 2000 - 2006**

*Java Web Software Engineer (2004 - 2006), Software Developer (2000-2004)*

Oberthur manufactures payment card products such as credit, prepaid and gift cards.

- Developed a web application for allowing customers to track their card personalization orders. Programmed front end using JSP, Struts, Javascript, CSS and HTML; controller modules using Java and Struts; and back-end services using Spring, Hibernate and Oracle. Actively involved in all aspects of design (MVC pattern, J2EE).
- Programmed a javascript intensive module for allowing customers to design their card personalization.
- Built Delphi and C++ modules for card personalization.
- Received congratulation statements from stakeholders.

### **Interbank. Lima-Peru, 1994 - 1998**

*Project Lead - Software Engineer (1996 -1998), Mainframe Software Engineer (1994 - 1996)*

Interbank is a major Peruvian bank with more than 100 branches around the country at that time.

- Led team of 9 developers and coordinated with 7 consultants for 'Systematics Installment Credit Application' customization. Analyzed functional gaps with business analysts. Programmed customizations of most sensitive modules. Supported business analysts during user acceptance testing and training. Received a bonus for successful implementation. It was the first bank product to go through this process, others followed.
- Implemented tracking for dozens of Y2K conversion projects. Received CIO's congratulation statement.
- Re-engineered software development processes as part of an overall project at Interbank.
- Designed new features for the credit card system and led its implementation. Programmed some modules.