(818) 681-7878
nickruta@gmail.com
http://nickruta.com/

Allen, TX

NICHOLAS J. RUTA, JR.

EDUCATION

Cambridge, MA **Harvard University S.E.A.S.** **2019**

- Master of Science (SM), Computational Science & Engineering, GPA: 3.96.
- Coursework & research completed in data visualization, machine learning and time series analysis.

Cambridge, MA **Harvard University Extension School** **2017**

- Master of Liberal Arts (ALM), Software Engineering with concentration in data science.
- GPA: 3.86 *Graduated with honors – Dean's List Academic Achievement Award.*
- Thesis: CuttleTree: Adaptive Tuning for Optimized Log-Structured Merge Trees. (http://nickruta.com/#lsmtree)

Los Angeles, CA **University of California, Los Angeles** **2005**

- Bachelor of Arts, Italian with concentration in International Business.

TECHNICAL EXPERIENCE AND PROJECTS

- **Python Application to Analyze Time Series Data** using NumPy, SciPy, Flask and SQLAlchemy.
- **Academic Publication** in time series exploration through hierarchical clustering. (https://arxiv.org/abs/1908.05505)
- **Commercial Publication** in deep learning for oil production forecasting in unconventional reservoirs. (https://archives.datapages.com/data/urtec/usa/2022/3723682.html)
- **Text Mining for the Analysis of Shakespeare** research project using machine learning techniques.
- **Oracle Certifications** Professional Java SE 7 Programmer and Expert EE 6 Web Services Developer.
- **Spring & Django Frameworks** development of REST-based web services and custom web applications.
- **Custom LSM-tree Implementation in C++** exploring adaptability given various workload patterns.
- **Cloud-based Data Storage & Processing** using Amazon AWS & Apache Kafka.(http://nickruta.com/#dspipeline)

EMPLOYMENT

Data Scientist - Optimization **ComboCurve** **2022-2023**

- Utilized OR-Tools to solve NP-hard scheduling for drilling wells operations.
- Founded & managed an internal wiki providing technical documentation & customer support assistance.
- Created cloud-based Python flask back-ends to deploy machine learning algorithms.
- Exposed data boundaries, improved performance & fixed bugs through algorithm stress testing & analysis.
- Designed & updated React & node.js front-end features.
- Coordinated cross-team efforts using agile practices to orchestrate complete application connectivity.
- Implemented unit & integration testing suites in Python & Javascript.
- Configured k8s, dask & prefect for cloud-based high performance computing of ML & scientific calculations.

Data Scientist **Quantum Reservoir Impact (QRI)** **2021-2023**

- Machine learning specialist for SpeedWise ML, a SaaS solution for machine learning and predictive analytics.
- Provided inventory forecasting using time-series feature extraction & ensemble learning.
- Designed & implemented new data science-targeted features for a MERN stack (React & Node.js) application.
- Developed deep learning solutions (DeepAR & TFT) for forecasting in unconventional oil reservoirs.

Software Engineer **USAA** **2019-2021**

- Designed & Tested Java Spring Boot REST APIs using Groovy.
- Implemented Docker-based Kafka Producers & Consumers.
- Utilized cloud-based technologies (Spring Cloud, AWS Lambda & DynamoDB) for data processing.

Graduate Researcher &
Teaching Fellow **Harvard University S.E.A.S.** **2016-2019**

- Head Teaching Fellow for CS109 Introduction to Data Science.
- Designed an optimized adaptive LSM-tree that captures workload patterns and collects runtime statistics.
- Implemented a Python Flask app using time series analysis. (https://nickruta.github.io/time-series-search-engine/)
- Used machine learning and text mining on Shakespeare's works. (http://nickruta.com/#shakespeare)
- Built an application for time series exploration through hierarchical clustering. (http://nickruta.com#data-vis)
- Created a deep learning-based app for online image sequence classification. (http://nickruta.com/#deep-learning)

Software Engineer **University of California, Los Angeles** **2013-2016**

- Created and consumed REST-based web services using the Java Spring framework.
- Implemented new features, fixed bugs and optimized performance of Spring-based web applications.

Software Engineer & Project Manager **NoAutoDealers.com** **2010-2012**

- Built an iPhone mobile application using Objective-C and the iOS SDK.
- Managed a java programming team of 3 to ensure projects were completed on time.

Real Estate Broker & Tech. Consultant **Self-employed** **2008-2015**

- Successfully completed 86 transactions as a licensed Real Estate broker in California.
- Built PHP & Java-based web apps with optimized online presence using SEO and Social Media Marketing.

ADDITIONAL EXPERIENCE AND AWARDS

- **CoderDojo Mentor (2016 – 2021):** Teaching young people, ages 7 to 17, about technology.
- **Interned with the Pittsburgh Penguins Hockey team:** Provided technical support for J. Jagr and M. Lemieux.
- **Professional Golfer:** Competed on the Canadian, Pepsi and Golden State tours.