Juan Casse Los Angeles, CA (310) 913-7306 jcasse@gmail.com linkedin.com/in/juan-casse gitlab.com/jcasse

Software Engineer

A software developer at heart, I am passionate about writing extensible and maintainable code. With an academic background in machine learning and artificial intelligence, my ideal job consists of developing software for AI applications. Fortunate to have had a diverse experience in industry: designed and implemented an automated testing and reporting framework for mobile applications, implemented a fuzzy inference engine as a Python package, developed a web service for an AI engine and APIs for data pipelines using mlflow and metaflow, conducted data science work, and designed and implemented controls for manufacturing automated equipment and machine vision.

Experience in Industry

Beyond Limits, Inc.
Leader in industrial-grade artificial intelligence solutions — Glendale, CA

- *Artificial Intelligence Engineer* — *January 2020 - present*
  - Develop software in the area of knowledge representation and reasoning.
- *AI Software Engineer* — *October 2017 - January 2020*
  - Developed software for artificial intelligence applications.

InAuth, Inc., an American Express company
Leader in mobile-first authentication and fraud prevention — Santa Monica, CA

- *Software Development Engineer in Test* — *July 2016 - October 2017*
  - Developed cross-platform test automation framework for the company's mobile SDK products. It runs on Linux and OS X, operates on Android and iOS devices, is extensible and provides end-to-end automation, writing results to an MS Excel spreadsheet in the cloud. It reduces a month of work of three QA testers to two hours.

Children's Hospital Los Angeles
Award-winning, non-profit, research hospital providing life-saving care to children — Los Angeles, CA

- *Data Scientist* — *December 2014 – July 2016*
  - Developed algorithm to diagnose patients. It transformed each patient's heterogeneous, messy and irregularly sampled longitudinal data from electronic health records into a fixed-length feature vector, relative to every other patient in the ICU. The interrelation between variables and their timing information was modeled in a principled way as a marked point process. The number of clusters was automatically selected by the algorithm.
  - Developed packages in R and Python for data cleaning and analysis.

Google, Inc.
Multinational, technology company specializing in Internet-related services and products — Mountain View, CA

- *Software Engineering Intern* — *June 2013 – September 2013*
  - Contributed to open source software, Flexible I/O Tester (fio).
  - Developed Linux utility in C to test data integrity and retention of storage devices.

Experience in Academia

University of California Riverside
Public research university, part of the University of California system — Riverside, CA

- *Graduate Student Researcher* — *June 2012 – September 2014*
  - Implemented clustering algorithms (20K lines of C++ code) as part of my research work.
- *Associate Instructor* — *April 2012 – June 2012*
  - Taught CS 14 Introduction to Data Structures and Algorithms.
- *Teaching Assistant* — *September 2009 – June 2013*
  - Held laboratory sessions, graded assignments, and held office hours for various CS courses.

Harvey Mudd College
Top-ranked college of science, engineering and mathematics Claremont, CA

- *Instructor* *January 2011 – May 2011*
  - Taught CS 151 Artificial Intelligence.

Other Professional Experience

Lifescan, a Johnson & Johnson company
Manufacturer of blood glucose monitoring systems for home and hospital use Cabo Rojo, PR

- *Staff Engineer* *January 2002 – December 2004*
  - Introduced new-technology automation to our manufacturing processes.
- *Senior Manufacturing Engineer* *August 1997 – January 2002*
  - Improved process yield through 6-sigma projects.

Baxter Biotech Group Fenwal Division
Manufacturer of medical devices used in the delivery of fluids/drugs and hemodialysis San German, PR

- *Project Engineer (Factory Automation)* *September 1993 – September 1997*
  - Designed and implemented controls for automated manufacturing equipment and machine vision.

Technical Tools

Language: Python (expert) · C/C++ (proficient) · Java · Bash · JavaScript · Lisp · Objective-C · R · SQL · Matlab
Software: Emacs · Vim · Android Studio · Xcode · R Studio · Git · Docker · Kubernetes
OS: Linux · macOS

Projects

Web IDE (2018) Web-based IDE, deployed in Docker — Python · Flask · Apache Http Server
Xperimenter (2015) Multi-threaded, GUI-based workflow tool — C++ · wxWidgets
Automatic Grader (2012) Coding assignment grading and reporting system — Bash · C++
Interactive 3D Visualization (2011) GUI for viewing a clustering of cubed data — C++ · OpenGL
Convoy Routing (2007) Genetic algorithm for optimal scheduling of convoys on shared roads — C++ · Java

Education

Ph.D. in Computer Science University of California, Riverside December 2014

- Dissertation: Automatic Co-clustering for Social Network and Medical Data

M.S. in Computer Science California State University, Long Beach May 2008

- Thesis: Convoy Routing and scheduling using Augmented Beam Search, RSBS

B.S. in Electrical Engineering Marquette University, Milwaukee August 1992

- Senior Project: Robotic arm to demonstrate cell manufacturing to future classes

Publications

Islam, Kazi T., Shelton, Christian R., Casse, Juan I. and Wetzel, Randall (2017). **Marked Point Process for Severity of Illness Assessment**. Proceedings of Machine Learning for Healthcare 2017. JMLR W&C Track Volume 68.

Casse, Juan Ignacio (2014). **Automatic Co-clustering for Social Network and Medical Data**. Ph.D. Dissertation, University of California Riverside, Riverside, CA.

Casse, J., Shelton, C., Hanneman, R. (2013). **A new criterion function for exploratory blockmodeling for structural and regular equivalence**. Social Networks, 35(1), 32–50.

Casse, J.I., Shelton, C.R., and Hanneman R.A. (2011). **Alternating Optimization Algorithm for Block-modeling Two-way Two-mode Data with Unknown Number of Clusters**. Regular Session on Social Networks for the 2011 ASA.

Goldstein, D., Shehab, T., Casse, J., and Lin, H. (2010). **On the formulation and solution of the convoy routing problem**. Transportation Research Part E: Logistics and Transportation Review, 46(4), 520.

Casse, J.I. (2008). **Convoy Routing and Scheduling using Augmented Beam Search RSBS**. Master's thesis, California State University, Long Beach, CA.