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

Software Engineer

I am passionate about software development and writing clean, maintainable code and, above all, ensuring the code is correct. I am an advocate of test-driven development. 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 the industry: architected, 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, conducted data science work, and more.

Technical Tools

Languages: C · Python · C++ · Java · Bash · Lisp · R · SQL · Objective-C · Matlab · Go · LaTeX · XML · JSON · YAML
Productivity: Emacs · Vim · Android Studio · Xcode · R Studio · Eclipse · Git · Gerrit · Jira · Confluence · Slack
Platforms: Linux · MacOS · Docker · Tomcat · SQL Server · Oracle · JDBC
Graphing: Gnuplot · Graphviz · Xfig · OpenGL · AutoCAD · Bokeh · ggplot2 · wxWidgets

Experience in Industry

Beyond Limits, Inc.
Leader in industrial-grade Artificial General Intelligence (AGI) software

AI Software Engineer **October 2017 - present**
- Develop software for artificial intelligence applications.

InAuth, Inc., an American Express company
Leader in mobile-first authentication and fraud prevention for mobile applications and browsers

SDET **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

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.
- Implemented packages in R and Python for data cleaning and analysis.

Google, Inc.
Multinational, technology company specializing in Internet-related services and products

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

Graduate Student Researcher **June 2012 – September 2014**
- Implemented clustering algorithms (20K lines of C++ code) in support of my research.

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

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

Previous Professional Experience

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

Staff Engineer **January 2002 – December 2004**

- Introduced new-technology automation to our manufacturing process.
- Worked closely with machine builders through conceptual design, reviews and validation.

Senior Manufacturing Engineer **August 1997 – January 2002**

- Improved process yield from 75% to 85% through 6-sigma projects.
- Integrated vision inspection systems on all manufacturing lines to ensure correct labeling.

Baxter Biotech Group Fenwal Division
Medical device manufacturer of products used in the delivery of fluids/drugs and hemodialysis

Project Engineer - Factory Automation **September 1993 – September 1997**

- Designed and built automated manufacturing equipment for various facilities worldwide.
- Supervised personnel and coordinated work in automation group's machine shop.
- Integrated radiation-based sterilization process.

Other Technical Experience

Web IDE (2018) Web-based IDE, deployed in Docker. Python, Flask, Apache Http Server, Ace, GoldenLayout

Experimenter (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 (GPA 3.9) University of California, Riverside **December 2014**
- Dissertation: Automatic Co-clustering for Social Network and Medical Data

M.S. in Computer Science (GPA 3.9) California State University, Long Beach **May 2008**
- Thesis: Convoy Routing and scheduling using Augmented Beam Search, RSBS

B.S. in Electrical Engineering (GPA 2.5) 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.