Stefano Meschiari, Ph.D.

Researcher, Data Scientist, EdTech enthusiast in Austin, TX

Portfolio GitHub stefano.meschiari@gmail.com

I am an astrophysicist at the University of Texas at Austin. I work with all kinds of data: from understanding complicated time series that reveal the existence of new planetary systems with Bayesian modeling, to summarizing millions of game plays and behavior tracked within my game that went viral, to tracking the performance of students using the educational platform I lead.

I also use my programming skills to create software tools to support everyone's ability to understand and model data, from researchers to students at all levels.

EXPERIENCE

2012-present

W. J. McDonald Postdoctoral Fellow

University of Texas at Austin

- I lead the data analysis effort for the Lick-Carnegie science collaboration (~20 scientists across the United States). I analyze time series data produced by large telescopes and search for the presence of new exoplanetary systems, leading to the discovery of several new planets. Each dataset is analyzed using my statistical code, Systemic, which models our observations using Markov-Chain Monte Carlo techniques; Systemic was used to discover more than 40 new planetary systems.
- I write high-performance, parallelized codes that solve ordinary and partial differential equations to model planet formation through numerical simulations.

2014-present

SAVE/Point, Principal Investigator

University of Texas at Austin

- I lead SAVE/Point, a collaboration of astronomers and educators producing cutting-edge edtech games, apps, and interactive touch kiosks, running on the latest Web technologies. I am the principal investigator and lead programmer and designer of the collaboration.
- We are funded through the Longhorn Innovation Fund for Technology, a grant that is competitively awarded to innovative academic technology projects that leverage information technology.
- I developed Super Planet Crash, an HTML5/JavaScript game that was played more than 15 million times and was covered by The Verge, IO9, Huffington Post, and others.
- I developed Systemic Live, an HTML5/JavaScript web app that teaches students about the process of data analysis and scientific discovery. It is used in classes at Caltech, UF, UT, MIT, SJSU, UD, Yale, Columbia, UCSC, SFSU, Coursera, and others.

2010-2011

Research Analyst

VN7 Dynamic LP

2013-2014

Software Development Contractor

EFFEX Capital

- I led the development of a sophisticated desktop application to monitor the real-time performance of strategies on high-frequency stock trading. The package was used to aggregate statistics, steer strategies, and summarize high-

frequency messages by a backend component.

EDUCATION

2012

Astrophysics, Ph.D.
University of California at Santa Cruz

Won award for the Whitford Prize award for best coursework and the Award for Excellence in Teaching.

2006

Astrophysics, M.S. and B.S.
University of Bologna, highest honors

SKILLSET

Numerical methods & statistics

Time series, regressions, hypothesis testing and confidence intervals, Bootstrapped uncertainty estimation, Markov-Chain Monte Carlo, ODE and PDE integration.

Programming

C and R for my numerical and statistical work; Java for desktop application development; HTML5/JavaScript/PHP/Node.js for web app development. Basic knowledge of Python, Clojure, and Matlab.

Design

I am experienced in designing intuitive and attractive user interfaces on desktop and on the web. I create beautiful plots from all kinds of data using R and ggplot2 to communicate my scientific results.

PROJECTS

See my portfolio (http://stefano-meschiari.github.io) for a list of my open-source projects. I contribute to more than 16 repositories on GitHub.