

DAVID AUERBACH, B.A., M.S., PH.D.

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DATA SCIENTIST AND ANALYSIS/VISUALIZATION EXPERT

*With 12+ years of experience in data analysis and visualization,
and a track record of delivering successful data solutions*

Core Skills

- Analysis and Visualization of High-Volume and High-Dimensionality Data
 - Extraction of Data-Driven Insights into User Behavior from Large Noisy Data Sets
 - Signal Processing: Correlation, FFT, and Wavelet Analysis of Signals
 - Image Manipulation using OpenCV
 - Algorithm Development and Statistical Analysis using Python, Java, Matlab, C++, IDL
 - Modeling of User Data to Drive Decision-making
 - SQL for Data Mining and Analysis
 - Definition and Measurement of KPIs
 - Delivery of Actionable Solutions Based on Business Needs
 - Clear Oral and Written Communication; able to Tailor Content for Varied Audiences
 - Team Leadership, Organization, and Strategy
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Selected Experience

PRODUCT MANAGER AND DATA SCIENTIST (2013) *BandPage, San Francisco, CA*

- Responsible for development and oversight of the core internal data products at BandPage, including artist data quality and business intelligence reporting.
- Determined business and product requirements, contributed to algorithmic design, and led the engineering effort to build a multi-feature, multi-dataset matching system for acquisition and verification of artist data.
- Designed and built an internal business intelligence dashboard for reporting of aggregate data to Executive and Business Development teams.
- Oversaw and led the re-engineering of an incomplete logging system, resulting in an accurate, modular, highly-tested data warehouse for user activity analysis.

SENIOR SCIENTIST AND DATA GURU (2012-2013) *Blindsight Corporation, Berkeley, CA*

- Responsible for the creation, development, and management of 'ground truth' data sets used to test and evaluate text detection, OCR, and other computer vision algorithms.
- Designed and implemented complex multi-factor evaluation metrics to maximize performance of computer vision algorithms and compare performance between algorithms.
- Utilized machine learning tools to determine optimum vision system performance parameters.
- Developed text clustering algorithms for paragraph segmentation of detected lines in images of dense text.
- Managed small development team responsible for vision algorithms and iOS development.
- Worked extensively with visually disabled and elderly users to create simple, functional interfaces for iOS apps that enable or improve reading ability.

GRADUATE STUDENT RESEARCHER (2006-2011) *Carter Lab, UCLA*

- Investigated experimental control of turbulence at plasma edges.
- Developed data analysis and visualization tools in python and IDL for temporal, spatial, and frequency domain analysis of turbulence.
- Analytically modeled behavior using fluid equations and numerical eigenmode solver.
- Created and maintained SVN repositories for shared data analysis code, and helped maintain multi-terabyte experimental data repository.
- Published results as first author in premier journals, Physical Review Letters and Physics of Plasmas: <http://link.aps.org/doi/10.1103/PhysRevLett.105.135005> and <http://link.aip.org/link/?PHP/18/055708>.
- Presented results in invited talk at annual APS-DPP plasma physics conference.

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THEME CAMP MANAGER (2007-present) *Burningman*

- Planned and organized 30+ person Burningman projects.
- Collaborated on interactive video artwork.
- Delegated responsibility and oversaw multiple separate aspects of planning, preparation, and execution.

TEACHING FELLOW (2004-2010) *UCLA Department of Physics*

- Taught and assisted a range of laboratory and lecture physics courses.
- Laboratory courses taught included basic physics and plasma physics.
- Lecture classes included basic physics and upper division plasma and beam physics.

NETWORK/IT ENGINEERING CONSULTANT (2011 - 2012) *Tencue Productions, Berkeley, CA*

- Designed and installed upgrade to small office network as company expanded from 20 to 30 people.
- Expanded VLANs to span multiple switches and properly prioritize VOIP traffic.
- Configured BIND9 to correctly resolve DNS requests for local machines.
- Administrated and configured FreeSWITCH/Cudatel VOIP system expansion.

GRADUATE STUDENT RESEARCHER (2005) *Dr. Chan Joshi Group, UCLA*

- Investigated plasma-based acceleration of high-energy electron bunches.
- Built Labview control software for high-temperature lithium plasma source.
- Collected experimental electron energy spectrum data and analyzed using MATLAB visualization tools.
- Co-authored results published in Physical Review Letters:
<http://link.aps.org/doi/10.1103/PhysRevLett.98.084801> .

NETWORK ADMINISTRATOR (2006-2011) *Los Angeles Ecovillage*

- Designed and installed wired/wireless network for 50 person residential co-op to provide reliable and affordable Internet access for co-op residents.
- Utilized enterprise-grade CISCO hardware and open-source routing/firewall tools.
- Implemented bandwidth shaping and QOS.
- Increased reliability and decreased link-failure downtime by using several independent shared uplinks.
- Built web-accessible database for cooperative local-grown produce distribution project.

TREASURER AND MANAGEMENT COMMITTEE MEMBER (2009-2011) *Urban Soil Housing Co-op*

- Served for one year as Treasurer on formation board of the *Urban Soil Co-op*, a newly formed limited-equity housing cooperative that is part of the *Los Angeles Ecovillage* urban sustainability demonstration project.
- Created budgets and negotiated purchase from original non-profit developer to enable cooperative community ownership of housing.
- As management committee member, responsible for oversight of building manager, communication with residents regarding rent and housing policies, and oversight of maintenance and renovation of buildings.
- Organized and facilitated regular weekly membership meetings and committee meetings using consensus-decision-making techniques.

Education

UNIVERSITY OF CALIFORNIA, LOS ANGELES (Fall 2004-December 2011) *Los Angeles, CA*

- Department of Physics and Astronomy, Experimental Plasma Physics.
- M.S., 3/2006, Ph.D. 12/2011.

SWARTHMORE COLLEGE (1997-2001) *Swarthmore, PA*

- BA in Physics with minor in Cognitive Psychology, Magna Cum Laude.