

Brian Lau
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Work Experience

- 9/10-present Staff Data Scientist Gaikai/Sony
- 1/07-9/10 Technical Lead/Engineering Manager, Oversee.net
- 2/05-1/07 Technical Lead, Yahoo Search Marketing
- 1/04-2/05 Senior Software Engineer, IQinVision, Inc
- 7/98-1/04 Senior Software Engineer, Gordian, Inc
- 9/96-1/99 Image Processing Consultant, Photobit, Inc
- 9/89-7/98 Computer/Optical Engineering, JPL/NASA
- 9/88-8/89 Robotics Engineer, JPL/NASA
- 1980-2001 Teaching and Tutoring, Caltech and UC Berkeley, last employed by the Dean's and Minority Affairs offices at Caltech.

Sample projects/achievements:

- Gaikai: Create web-based front end for Vertica, allowing data exploration and drill-down. This is now the go-to internal tool for Data exploration and diagnosing and communicating system and network problems. Vertica, Python, Javascript, HTML.
- Gaikai: Restructure and optimize ETL for Vertica Database - achieved 2 orders of magnitude increase in speed. Python, Vertica
- Gaikai: Install, configure, and maintain Hadoop cluster for event log files.
- Gaikai: Predictive algorithm to improve just-in-time file download performance, C++
- Gaikai: Image recognition for controlling game behavior (patent pending), C++
- Technical Lead (Domain Sponsor), Oversee.net: Lead improvements, including algorithm improvements, and maintenance of Oversee.net's domain monetization platform. Single-handedly completed Publisher REST API weeks ahead of schedule. C, Perl, Catalyst, Template Toolkit, Ajax.
- Technical Lead (R&D), Oversee.net: Complete research, code in Perl, and test, algorithms for monetizing domain names. C, Perl.
- Oversee.net: Rebuild Client Interface to our system (PubMan): Perl, Catalyst, Template Toolkit, Ajax.
- Technical Lead, Yahoo's Content Match (like Google's AdSense).
Led development and implementation of algorithms for matching web pages to advertisements.
Led subsequent effort to localize to foreign markets. C, Perl, Java.
- Java software for manipulation and display of archived camera images
This software with accompanying hardware, won Best IP Hardware at IIPSEC 2004 (International Internet Protocol in Security)
- C software and algorithm for modeling and control of robotic solar electricity generator (for Energy Innovations/idealab).
- Java configuration software for Lantronix Networking devices and IQinVision cameras. EZWebCon is available at www.lantronix.com and VisiCon at www.iqinvision.com.
- Java servlets and applets, JavaScript/DHTML, and Perl CGI programs for configuration of and image stream presentation from internet cameras
- Management/Configuration Software for 1000 CD Jukebox (Corba, Perl, C) interacting with C and Java programs
- Real-time sonar image processing to find unexploded mines.
- Technical Writing: JPL internal report on the status of DNA computing.

- Data analysis for J.P.L.'s Electronic Nose to identify and quantify gasses both singly and in combination (Nova Award for bringing the project on schedule from a year behind, also NASA Group Achievement Award)
- Automatic cancer cell identification from images
- Automatic location of license plates in images
- Empty/Full seat image discrimination for airbag research
- Sleepy/Alert driver analysis for real time camera applications
- New algorithm for image representation (NASA Tech Brief award)
- New algorithms for suppression from images of objects in any desired size range
- A complete image processing program, 30000 lines, with scripting language and GUI (written in C for now-obsolete Suntools though partial versions for X windows, Borland C++, and Visual C++ exist)
- Command parser for robot control
- Mathematica-based robot graphics

Background, Mathematics/Computer Science:

Experience or coursework in most areas of math. Extensive experience in coding theory, discrete mathematics, game theory, algorithms, differential equations, image processing and synthesis, Wavelets, Morphological Image processing, Neural Networks
Operating Systems: Unix/Linux

Background, Software:

- 5 years of Python
- 4 years Vertica/ETL/SQL Administrator-level
- 15 years in C/C++ (much more C than C++)
- 6 years of Java
- 7 years of Perl
- 6 years of JavaScript/DHTML/HTML
- 2 years of Ada (now mostly forgotten)
- also: Khoros/Mathematica/Maple/Matlab, Tex/Latex

Education:

- Ph.D. Candidate (a.b.d.), Math, Caltech 1985 to circa 95 (GPA not computed, ~4.0)
- M.S., Math, Caltech, 1988
- PhD Candidate, Math, UC Berkeley, 84-85 3.9 GPA
- B.S., Applied Math, Caltech, 1984 with honors, 3.7 GPA

References: in reverse chronological order

- Andrew Gault, CTO, Gaikai, abgault@gmail.com
- Michael Ha, ETL engineer, Gaikai, mikeha7@yahoo.com
- Jeremy Clover, Microstrategy Engineer, Gaikai, jeremyclover@gmail.com
- Jeremy Leader, Architect, Oversee.net, jleader@alumni.caltech.edu
- Michael Lee, Formerly Director, Oversee.net, leem@mac.com
- Sakiko Kimura, Formerly Director, International Product Management, Content Match, Yahoo, skimura@petasphere.com
- Charity Rieck, Director, Ad Quality Operations and Offshoring, Yahoo, rieckc@yahoo-inc.com, 818-524-5331
- Gene Hightower, formerly Engineer on my team, Yahoo, gene@digilicious.com
- Laurel Graham, Engineer, Yahoo (now at Google), laurelgraham@yahoo.com
- Rich Lyman, Ombudsman, Gordian and IQinVision, rich@iqeye.com 949-369-8100
- Ryan Breed, formerly VP of Engineering, Gordian, praxis@butterzone.net 949-388-1780

- Sabrina Kemeny, formerly CEO, Photobit Corp, sabrinakemeny@yahoo.com
- David Collins, formerly Manager, Microspacecraft Systems Technology Office, JPL/NASA, dcollins@pop.jpl.nasa.gov 818-354-4509
- Anil Thakoor, Group Supervisor, JPL/NASA, anilkumar.thakoor@jpl.nasa.gov 818-354-5557
- Rick Wilson, Professor of Mathematics, Caltech, rmw@its.caltech.edu 626-395-4362
- John Beahan, Member of Tech Staff, JPL/NASA, John.Beahan@jpl.nasa.gov 818-354-9551