

Raymond Jimenez

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- EDUCATION ◇ **Polytechnic School**, 1030 East California Blvd., Pasadena, CA 91106
College Preparatory Curriculum with Honors and Advanced Placement Courses
- ACADEMIC AWARDS ◇ California Institute of Technology Book Award, 2008
◇ Member of Cum Laude Society since junior year, 2008
◇ Polytechnic School Academic Honor Roll, 2005-2008
- PUBLICATIONS ◇ **Amateur Nuclear Fusion**, Author, June 2008
ISBN: 978-0-9791847-2-7, available at <http://stores.lulu.com/raymondj>
Documentation of the construction and operation of a nuclear fusor, with results,
pictures, and diagrams
- SCIENCE AND
TECHNOLOGY
EXTRACURRICULARS ◇ **Laboratory Intern**, Bellan Plasma Group, California Institute of Technology
(June 2007–present)
Currently developing a printed-circuit-board–based plasma “gun” enabling small-
scale study and recreation of plasma structures akin to solar prominences
- ◇ **Independent Researcher**, Amateur Synchrotron project (June 2008–present)
Currently conducting feasibility and design studies for construction of a small (1m)
synchrotron
- ◇ **Independent Researcher**, Amateur Nuclear Fusion project (June 2006–present)
Constructed a Farnsworth-Hirsch fusor capable of doing D-D fusion at detectable
rates. Fields involved include metalworking, high vacuum systems, high voltage sys-
tems, computer systems integration, high-pressure gas metering. Currently working
on a high-voltage system upgrade capable of 4000W at 60kV
- ◇ **Lead System Administrator**, #moe distribution group (October 2007–present)
Currently administering two servers that enable high-bandwidth content distribu-
tion, as well as code development and optimization of web applications. Current
website usage averages hundreds of thousands of users per day
- ◇ **Lead Programmer**, ef - the first tale translation project (February 2008–present)
Developed an intelligent parser to interpret a proprietary script format, currently
reverse-engineering several systems to retrofit/upgrade functionality
- ◇ **System Administrator**, Vignettes for Training (2005–present)
Handled system administrator tasks, such as repairing downed servers on emergency
call and configuring web-based applications
- ◇ **Researcher**, OpenHazuki project (2005–2006)
Started a small local wireless research network for exploring dynamic routing/fail-
over in a wireless environment, as well as extending said model into a small research
network of multiple VPNs

- THEATRE & ARTS ◇ **Technical Theatre**, Polytechnic School (2005–present)
- EXTRACURRICULARS Currently highly involved in technical aspects of theater productions, from operating sound- and light-boards to a full system rewiring of the auditorium, cleaning 10 years' worth of tangled wire and upgrading to full surround-sound capability
- ◇ **Debater** (2005–present)
Currently debate competitively in the Lincoln-Douglas format
 - ◇ **Lead Proofreader**, Tsukihime translation project (June-August 2006)
Proof-read and quality checked 100 pages of text of a translation project, also tested code in-engine for quality assurance purposes
 - ◇ **Violist** (2001–present)
Currently play the viola in the school orchestra and take outside lessons; have played with the Pasadena Youth Symphony Orchestra in Carnegie Hall
- THEATRE PRODUCTIONS (SELECTED)
- ◇ *The Pajama Game*, pit violist, April 2008, Polytechnic School
 - ◇ *All in the Timing*, lightboard operator, February 2008, Polytechnic School
 - ◇ *The Prime of Miss Jean Brodie*, projectionist and video designer, November 2007, Polytechnic School
 - ◇ *Putting it Together*, lightboard operator, June-August 2007, Sierra Madre Playhouse
 - ◇ *Footloose*, soundboard operator and sound system architect, May 2007, Polytechnic School
- SKILLS
- ◇ **High Voltage**: Familiar with 35kV and transformer-based supplies, learning HV SMPS techniques (series loaded resonant topology)
 - ◇ **High Vacuum**: Familiar with operation at $\leq 5.0 \times 10^{-4}$ Torr
 - ◇ **Gas Management**: Familiar with high pressure gas usage, including regulators, leak valves, etc.
 - ◇ **Electronics**: Familiar with basic circuit design and diagnostic tools (DMMs, digital oscilloscopes, etc.)
 - ◇ **Sound**: Proficient in use of 4-8 bus audio mixers live, speaker wiring, wireless lavalier microphones
 - ◇ **Lighting**: Proficient in lighting design, lightboard operation
 - ◇ **Computer Networking**: Proficient with BGP, OSPF, RIP, IPv6, Zebra/Quagga; familiar with dynamic routing in general
 - ◇ **Operating Systems**: Linux, FreeBSD, Windows system administration
 - ◇ **Web Design**: XHTML/CSS/AJAX web sites with accessibility and functionality in mind
 - ◇ **Computer Languages**: Proficient in C, PHP, LaTeX, Ruby; familiar with Perl, SQL, bash, regular expressions
- OTHER INTERESTS Scientific glassblowing, Japanese animation, visual novels, reading, writing short stories, web design, digital/hot-metal typesetting, origami, viola, electrical engineering, wide-area networking, philosophy (Derrida and deconstructionism), linguistics (Sapir-Whorf et al.), amateur radio, information theory (Shannon et al.), amateur experimental rocketry (see Richard Nakka), unicycling
- COMMUNITY SERVICE ◇ **Kankou Moussa**: Helped develop a simple website for a school in Mali, North Africa
<http://www.kankoumoussa.net>. (March 2008–present)
- REFERENCES Available on request.