Fenn Lipkowitz

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(703) 343-5730

Skills (most confident first in each category)

Web/Networking:
search, IRC, ssh, wiki, HTML, CSS, TCP/IP, DHCP, DNS, NAT, django, SPF, firewalls, CGI, tcpdump, ARP

Unix/Linux:
coreutils, Debian, Ubuntu, screen, apt, sed, NFS, grub, rtai, OpenVZ, ntpd, MySQL, iptables, slocate

Programming:
Python, vim, git, bash, regex, C, Perl, CVS, svn, gcc, make, rs274 g-code, C++, Lisp, postscript

Libraries:
yaml, graphviz, cairo, opencascade, opengl

Office:
typing ~120wpm, web, email, car driving, vector graphics, spreadsheets, graphing, percussion maintenance

Laboratory:
sterile techniques, colony isolation, tissue culture, agarose gels, PCR, lab-notebook-keeping, weighing, photospectrometry, titration, immersion microscope, hematocytometer, distillation, column chromatography, southern blot, NEBlot-phototope, gel extraction, DNA sequencing, sequence alignment

Electronics:
AVR microcontrollers, arduino, circuit testing, parts procurement, board layout, schematic capture, H-bridge, SPI, USB, i2c

Manufacturing:
inventory management, hand tools, circuit board fabrication, soldering, FDM 3d printing, lathe, mill, measuring, CNC, metal casting, industrial automation, pneumatics, carpentry, MIG, TIG, plasma, fiberglass, resin casting, oxyacetylene, papercraft

Engineering:
dimensional analysis, mechanical design, thermal design, turbulent flow estimation

CAD/Graphics:
Blender, Inkscape, Gimp, QCAD/LibreCAD, Kicad, Fusion/360

Languages:
English, Spanish, Japanese

Formal Education

Microbiology 2000-2003:
Indiana University - Bachelors of Science, "with distinction" (GPA 3.72)
Studied horizontal gene transfer between plant mitochondria of different species.

Biology:
molecular genetics, molecular biology, organic chemistry, bacteriology, immunology, virology

Math:
linear algebra, calculus, statistics

Experience

#hplusroadmap 2008 - present:
Co-founder. Moderated online think tank about transhumanist technologies. Analyzed feasibility of hundreds of news articles. Led engineering on DNA synthesizer, microfluidics rapid prototyping system, and early wearable computer. Managed log files and wiki. Drafted statement of goals, justifications, and key technologies.

Ignite Gaming Technologies 2010 Oct - 2011 Jul:
Prototype Technician. Built several iterations of videogame controller to specification. Designed and documented electronic circuit board and layout for mass manufacture.

Jimmy Li jimmy@ignitegt.com

OmniVision Technologies 2010 Jun-Aug:
Quality Assurance Intern. Built quality assurance database and interface in Django. Tested webcam compression algorithms for visual artifacts. Wrote various helper utilities for chip designers.

Jeff Hsieh jhsieh@stanfordalumni.org Ben Hue-ban Lan 408-973-8356 benh_6_lan@yahoo.com

University of Texas Automated Design Lab 2009 Jun-Aug:
Summer Research Experience. Put in place subversion, wiki, mailing list, hostnames, backups etc. and helped other staff learn to use them. Created a manufacturing process ontology. Designed formats for representing manufacturing processes and part compatibility. Documented disassembly procedures for various consumer items. Played with virtual Legos.

Matt Campbell 512-232-9122 mc1@mail.utexas.edu Bryan Bishop 512-203-0507 kanzure@gmail.com

EMC2 project (LinuxCNC) 2005-2008:
Open source developer; wrote a stewart platform simulator, investigated various improvements to motion queueing and inter-process control, bugfixes, testing, significantly improved documentation and wiki. Illustrated "Chips" the penguin mascot logo.

the emc-developers mailing list #emc-devel on irc.libera.chat, or board@linuxcnc.org

Datarealm, Inc. 2007 May-Nov:
Backend Engineer; resolved database, spam, and Linux server automation issues. Created a new spam filter configuration interface for employees. Documented Perl infrastructure from 1994. Assisted technical support department in finding solutions.

August Wohlt wohlt@isidore.net

Informal Education

Engineering 2001-2008:
units, actuators, manufacturing processes, control theory, artificial intelligence, space tethers, turbines, rockets, CAM, CAD, kinematic design, self-replicators, rapid prototyping

Quantified Self 2005 - present:
Lifelog, a long running self-experiment to track and visualize sleep patterns, food, social interaction, mood, etc.