Jack Carrozzo

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Contract Software and Hardware Engineer *Self, Webster MA, September 2023 – current* • A prototypical continuous chemical reactor sensor network, models and simulation, feedstock metering, excursion alerting. • UAV position inference software and hardware for GPS-jammed environments • Low-power deployable wireless ground stations for UAV datalinks via encrypted tunnels with IPv6 and BGP over LTE and commodity links. • FPGA-based ATSC modulator add-on for tx path beamforming

Product Committee Chair *PeeringDB, January 2024 – current* (volunteer)

Principal Software Engineer, Platform *Nasuni, Marlboro MA, April 2019 - September 2023* • Integration of fuse, XFS, SMB (samba), kernel NFS, Windows AD/ACLs/ACEs interaction, and network mgmt into a widely deployed linux image. Feature design and prototyping, core dump and packet capture inspection, virtual networking infra for bug repro (IP namespaces), kernel and IO selection and tuning. Physical infra and vm performance harness development for protocol timing sampling and analysis. C, Python, Bash, C++.

Consultant, Cloud Engineering (contract) *Bose, Boston MA, Oct 2018 – Mar 2019* • Architecture, prototyping, and rollout of large-scale distributed data ingest and aggregation system; realtime analytics and system performance

Senior Software Engineer, Backend Team Lead *Bedrock Data, Boston MA, Aug 2014 – Nov 2017* • Python3 and Node.js data synchronization platform and graph database • DB and cache control, inline constraint verification • Design and implementation of high availability automated VM, network, and service infrastructure

Senior Software Engineer *20c, Chicago IL, Mar 2013 – Feb 2014* • Wrote statistical and indicator plugins to our HTML5 front end with supporting async Python back ends • Built and supported Python and C interfaces between external services and internal AMQP messaging queues

Eng Lead *AC Research, New York NY, Aug 2011 – Mar 2013* • Designed and built prototype microwave network hardware, kernel drivers, and supporting periphery • Managed techs to repair and update existing microwave network of legacy hardware concurrent to design work; phased rollout of new hardware

Infrastructure Engineer *Zenfire, Chicago IL, Mar 2011 – Aug 2011* • Scripted monitoring, metrics, and configuration management of networking equipment • Planned and tested rollout of London POP, anycast.

Engineering Lead *Energy Inside, Cambridge MA, Jul 2009 – Mar 2011* • Worked with a small team to rapidly iterate prototypical interfaces to our data pipeline and statistical inferences thereof. Python, PHP

Principal *Paraproc, Worcester MA, Feb 2009 – Jan 2010* • Built a virtual machine, colocation, and tunneled IP transit company using primarily open source software • Wrote customer and admin management portal to interface layer 3 switches, BGP and IGP routing, and Linux host machines. C, PHP, Python

RF Engineer *Verizon Wireless, Westborough MA, Sep 2008 - Apr 2009*
RF Engineer *Applied Communications, Northborough MA, Summer 2008*
Undergraduate Researcher *Manufacturing Eng. Department, WPI, May 2007 - 2008* • CAD, CAM, C
Unix Intern *IT Ithaka Harbors, Princeton, NJ, Summers 2003, 2004, 2005* • Solaris, Linux, IOS; Perl, C, PHP

SKILLS:
Software: Apache2, nginx, Bind, Asterisk, PostgreSQL, Redis, Unix build and scripting tools, gdb, Wireshark, OpenVPN, Wireguard, Solidworks CAD, Eagle PCB, Altera Quartus, Icarus Verilog, MATLAB …
Protocols: IPv6, ARP, 802.1q, 802.3ad, 802.11, HTTP(S), BGP, IPSEC, SNMP, DHCP, DNS, NTP, JTAG…
Languages: C, Verilog, Python, Bash, asm (x86_64, z80, 6502, m68k), Common Lisp, Javascript+HTML5
Assorted Projects and Experience: http://crepinc.com ; https://github.com/jackcarrozzo