Paul D. Spooner

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Post Falls ID, NO RELOCATION

Professional Mechanical Engineer: CA #38358

I'm a creative engineering generalist with a broad experience background and a PE license. I've worked in the bio-pharma, semiconductor, aerospace, metal fabrication, and MEP industries doing a bit of everything from sales and spec through design and fabrication and into install and on-site support. My designs have included 3D printing, circuit board design, large weldments, and lots of elegant 3D modeling. I've also done controls programming, technical art, web front and back end, task automation, and game programming on MINECRAFT!

FORMAL EDUCATION

B.S., Engineering – Mechanical (Mathematics Minor)
Graduated: May, 2006 **LeTourneau University**, Longview, TX
GPA: 3.62 / 4.00, Magna Cum Laude

LU curriculum requires 137 semester hours and is ABET accredited. Graduated in 4 years with 198 hours. Senior project; Lead a 5 member engineering team to win 2nd place at SAE Aero Design West 2006.

SKILLS

Computer:	Design for: 3D print, casting, PCB, machining, welding, injection molding	Fabrication:
C(++,#), Python, Java		**Machine Tools** – lathe (wood and metal), mill, press, shear, mag-drill, saw (band, chop, table), grinder (angle and bench), buffing wheel
HTML, Pearl	**Hardware** – Aircraft Assembly Automation, Molded fluid filtration components, Electro-mechanical Diebonders, Opto-electronics	
Solidworks		
MS Office		**Rapid Prototype (3D print)** – Sintered (plastic, metal), extruded filament, lost wax, CNC laser, CNC router
AutoCAD		
Inventor	**Software** – Dimensional and GD&T CAD, 3D Modeling and Animation (Conventional and Procedural), Game programming (Minecraft), Arduino	
Blender		**Construction** – masonry, thin-wall ferro-cement, truss-frame, tab-and-slot welded, excavation, wood frame
ANSYS		
CATIA		
Revit	**System** – N-axis automation, Piping, Duct, pneumatic, hydraulic, electronic	**Welding** – wire-feed (mig), stick, Tungsten torch gas sheild arc (tig)
Creo		

PROFESSIONAL EXPERIENCE

Engineering Coordinator 100% Remote April 2022 – June 2023
Micron Semiconductor, Boise, ID, via **AMTS**, Tempe, AZ
Design management, automation programming, documentation and data entry in support for clean-room equipment installation and capital improvement projects. Includes 2D & 3D modeling in AutoCAD and Revit, programming in AHK and Python.

- Developed user-side software automation tools for data access, remote work, time logging, drawing setup, and project setup, resulting in ~30x reduction in automated task duration (minutes reduced to seconds).

3D Specialist: Modeling, Animation, and Game Programming
October 1998 - Present
Tryop LLC, mostly remote over the internet
Sales, marketing, web design, customer relations, technical art tool development, and production. It's a one-man operation; I do everything!
See my commission page: http://3D.TRYOP.COM, and https://github.com/dudecon/

- Programmed a Python script for parametric tree generation in **Minecraft**, and was commissioned to implement it in Java. Project completed in three days. Client was very satisfied, and went on to sell the game for $2.5 Billion:
https://minecraft.gamepedia.com/Paul_Spooner
- 3D modeled sci-fi armor for a series of 7+ miniatures.
http://peripheralarbor.com/gallery/v/CG+Art/Concept-based/SithTrooper/
- Indie film "Project London". 3D Modeling (buildings, scenes, and vehicles), texturing, concept art, web-design, and animation: https://www.youtube.com/watch?v=I89ZiK6hdE0
My work on the project highlighted here:
http://peripheralarbor.com/ProjectLondon/

Lead Systems Engineer July 2020 – February 2021 On Site, – Remote Contractor until December 2021
Design Engineer May 2010 – March 2012
Semiconductor Equipment Corp., Moorpark, CA
Design, programming, fabrication, troubleshooting, field service, and documentation for semiconductor manufacturing equipment. Includes 2D & 3D modeling, UI and embedded programming, wiring harness, and circuit board design in a lean manufacturing environment.
- Performed a 2 week install of clean-room equipment at the Albuquerque Intel Fab. Intel Contingent Worker WWID: 11980991
- Developed and demonstrated 8W 532nm laser soldering techniques for wafer tester repair.
- Designed, implemented, tested, and deployed UI and graphical updates, operational changes, and bug-fixes to arduino-based machine control system and touch-screen interface.

Project Manager / Sales Engineer April 2019 – June 2020
Titan Metal Fabricators, Camarillo, CA
Sales and project manager for corrosion resistant process equipment. Gathered specifications, quoted, purchased, and supported pressure vessels and heat exchangers in Titanium, Tantalum, Zirconium, and other corrosion resistant alloys. Managed design, inspection, assembly, testing, shipping.
- Quoted, sold, and managed over five million dollars of projects.
- Managed several quick-turnaround custom fabrication orders, with 2 weeks from first call to shipment of ~$40k of product each.
- Documented, organized, and systematized the HEX repair process, including successfully selling a 2+ year old orphaned order. Smooth handoff of the process to a new hire.

Mechanical Engineer October 2016 – February 2019
Gausman & Moore, Santa Clarita, CA
HVAC and Plumbing design for both new and existing construction for submission to plan check. Some on-site surveys and customer contact. Extensive Revit work, along with some AutoCAD.
- Designed and/or revised all of the HVAC for the Delta-Shores mall in Sacramento California to meet state, city, and contractor requirements.
- On-site survey and full HVAC and plumbing design for both a kitchen remodel/expansion respecting existing finished spaces, and a pool-side bar with heated slab at the Four Seasons Hotel Westlake Village, California.
- Full HVAC design for the aesthetic-critical flagship T-Mobile store at 1 Stockton St, San Francisco, California.
- Programmed drawing setup automation tools resulting in ~30x reduction in setup time.

Mechanical Designer October 2015 – October 2016
Contract Draftsman January 2000 – December 2000
Budlong and Associates, Camarillo, CA
HVAC and Plumbing design for both new and existing construction for submission to plan check. Some on-site surveys. Extensive AutoCAD work, along with some Revit.
- Multiple Pleasant Valley School District site visits and HVAC refit designs.

Engineer March 2012 – October 2015
Electroimpact, Mukilteo, WA & Nagoya, Aichi, Japan
Cradle to grave engineer for aircraft automation. Gathered specifications, quoted, designed, purchased, inspected, assembled, tested, shipped, installed, and supported house-sized robots for Electroimpact customers (Boeing, Airbus, Embraer, Lockheed).
- Leader (3 members) for Flex Track storage and handling. Design, FEA analysis, purchase, fab, assembly, shipping, and install at the Boeing Charleston plant; 787 rear fuselage join lines 1, 2, 3 (forward compatible with line 4).

- Engineer on a team (20 members) that designed, fabricated, and delivered jigs for Embraer military transport assembly and drilling. Met exacting project documentation requirements and accelerated schedule.
- Support Engineer in Nagoya, Japan (solo assignment). Provided long-term on-site support for the E5000 Full Barrel Boeing 787 Fuselage Fastening Machine. Worked directly with both customer and business partners. Performed an "impossible" tombstone re-alignment, avoiding millions of dollars in downtime.
- Tool Engineer. Close clearance stress-critical offset rivet anvil design for multi-ton riveting machines for modernization of the Lockheed C-130 program.

Data Entry & Programming January 2010 – December 2011
Soho Prospecting, Camarillo, CA
Data entry and automated tool development. Extensive web collaboration for retailer maintenance and bug reporting.
- Populated a Joomla website with affiliate vendor information.
- Image manipulation for logo reduction and formatting.
- Task automation with AHK

Engineer May 2006 - October 2008
Meissner Filtration Products Inc., Camarillo, CA
Project Management, design, fabrication, process documentation, and quality control of both automated and manual clean room machinery and tools in support of the cleanroom production line.
- Designer for In-house web handling machinery used to rinse, coat, and dry delicate filtration media. Shared responsibility with engineering lead. Aided in design, purchasing, fabrication, and installation.
- Designer in charge of a refit for prototype injection molding equipment for use in a clean room. Personally designed, fabricated, and tested a prototype mold cavity to solve heat exchange, part release, and smoke generation problems. The prototype passed all specification criteria, and the project was under budget.
- Solo project to develop hand-operated clean room tools for pleat pack handling and filter assembly. Three successive generations of prototypes were required to produce a solution. The new tools greatly reduced operator error and increased productivity.
- Project lead fitting a conveyor fed drying oven with automated loading and unloading robotics. Personally designed, fabricated, purchased components, assembled, and tested all major mechanical systems.

Engineering Intern May 2005 - August 2005
Argon ST, Camarillo, CA
Drafting and assembly for electronic and RF system mechanical parts and wiring diagrams.
- Finished a weeklong project in 10 minutes. Was offered a full-time permanent position on the spot. Declined because the pay wasn't good enough.

Engineering Intern May 2004 - August 2004
Naval Facilities Engineering Service Center, Port Hueneme, CA
Maintenance of robotic systems, data gathering, assembly, and drawing organization. Granted Secret security clearance.
- All project details classified.

Drafter/Surveyor's Helper May 2000 - August 2000
Bennett Engineering, Lakeport, CA
Drafting in AutoCAD and holding the pole for surveying. Way back when surveying was done by hand-held lasers and retroreflector posts instead of with photogrammetry and drones.

REFERENCES

Andy Wilkinson P.E. Known since 1992
Director of MEP Services at Ayres Associates
Former Supervisor at Gausman & Moore and Budlong and Associates
Childhood Friend
wilkinsona@ayresassociates.com
661-291-4265

Gloria Studley Known since 2010
Engineering Manager, Machine Design at Semiconductor Equipment Corp.
glorias@semicorp.com
(805) 529-2293 x32

Ben Hempstead P.E. Known since 2012
Former **Chief of Staff** at Electroimpact
BenH@electroimpact.com
425-609-4980

Josh Donoven Known since 2022
Former **BIM Lead** at Micron Semiconductor
freewired@gmail.com
971-235-3995

Use the QR Code to the right to download the latest copy of my resume at:
https://Paul.Tryop.com

HOBBIES AND OTHER INTERESTS

- I [improvise](#) songs (mostly on the piano) as well as sing both solo and in a chorale. I also like writing [my own lyrics](#). I even made [a terrible music video](#)!
- I [maintain](#) [three](#) [blogs](#), wrote a [120K-word science-fiction novel](#) (building on the work of [Shamus Young](#) with whom I also [co-hosted a weekly podcast](#) until his passing in 2022) and have [another book](#) in the works. I've also written some [long-form poetry](#). I've done dramatic readings of [books](#), [articles](#), and [rambles](#)on various topics.
- I maintain [my own website](#), mess with [Python](#), and enjoy crafting [parametric geometry](#).
- I like making real life objects as well, including [ferrocement structures](#) and [sculptures](#), [tree forts](#), [woodcarving](#), and [plate armor](#).
- I also act, and have starred as the mad king Macbeth, the crazy nephew Teddy, the murderous king Claudius, and Bottom the Weaver (in two separate productions).
- My [YouTube channel](#) accumulates a bunch of miscellaneous content, including [a reading of an epic poem](#), [3d animation](#), [projects](#), [Satisfactory gaming](#), [travel to Singapore](#), and [home videos](#).