

PAUL D. SPOONER

PROFESSIONAL MECHANICAL ENGINEER: CA #38358

MRPAULSPOONER@GMAIL.COM

POST FALLS ID, NO RELOCATION

CELL: (805) 910-5814

PAUL.TRYOP.COM



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, MEP, AND CUTTING EDGE R&D 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:

C(++,#), Python, Java
HTML, Pearl
Solidworks
MS Office
AutoCAD
Inventor
Blender
ANSYS
CATIA
Revit
Creo
NX

Design for:

3D print, casting, PCB,

machining, welding, injection molding

Hardware –

Aircraft Assembly

Automation, Molded fluid filtration

components, Electro-mechanical

Diebonders, Opto-electronics

Software –

Dimensional and GD&T CAD, CNC laser, CNC router

3D Modeling and Animation (Conventional

and Procedural), Game programming

(Minecraft), Arduino

System –

N-axis automation, Piping,

Duct, pneumatic, hydraulic, electronic

Fabrication:

Machine Tools – lathe (wood and metal), mill, press, shear, mag-drill, saw (band, chop, table), grinder (angle and bench), buffing wheel

Rapid Prototype (3D print) –

Sintered (plastic, metal), extruded filament, lost wax,

Construction –

masonry, thin-wall ferro-cement, truss-frame,

tab-and-slot welded, excavation, wood frame

Welding –

wire-feed (mig), stick, Tungsten torch gas shield arc (tig)

PROFESSIONAL EXPERIENCE

Senior Mechanical Engineer May 2024 – Present

Black Diamond Networks, Undisclosed Client, Private Contract

Equipment Team for superconducting magnet manufacturing. Creating and supporting bespoke novel automation to unparalleled challenges. Line downtime reduced 70% in the first three months. Hero to the techs and the boss.

3D Specialist: Modeling, Animation, and Game Programming

October 1998 - Present

Tryop LLC, mostly remote over the internet, also mostly a hobby business.

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 my code <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
- Indie film "Project London". 3D Modeling (buildings, scenes, and vehicles), texturing, concept art, web-design, and animation: <https://www.youtube.com/watch?v=I89ZiK6hdEQ>
My work on the project highlighted here: <http://peripheralabor.com/ProjectLondon/>
- Designed and populated <https://www.wingsrising.org/> as well as my own websites.
- I also do handyman and construction stuff: <https://handyman.tryop.com/>

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 of error-prone concentration reduced to seconds of relaxation).

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 demo'ed 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 (minutes of error-prone work reduced to seconds of flawless software 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

benjaminhempstead@gmail.com

206-250-4072

Josh Donovan 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>

