

# PAUL D. SPOONER

PROFESSIONAL MECHANICAL ENGINEER: CA #38358

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## 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 2<sup>nd</sup> place at SAE Aero Design West 2006.

## SKILLS

### Computer:

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

**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, 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, CNC laser, CNC router

**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)

## EXPERIENCE

**Lead Systems Engineer** July 2020 – Present

**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.

- 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.

### 3D Specialist: Modeling, Animation, and Game Programming

October 2008 - Present

**Self Employed**, Camarillo, CA & Seattle, WA & Nagoya, Aichi, Japan

Sales, marketing, customer relations, and production (it's a one-man operation)

See my commission page: <http://www.peripheralarmor.com/commission/>

- 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](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=I89ZiK6hdEo>
- Bulk image manipulation including watermark removal, filter application, rescaling, and photogrammetry.

**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 in just over one year.

**Mechanical Engineer** October 2016 – February 2019 **Gausman & Moore**, Santa Clarita, CA  
HVAC and Plumbing design for both new and existing construction for submission to plancheck. Some on-site surveys.

**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 plancheck. Some on-site surveys.

**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.

**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 install.
- 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.

**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.

**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 instead of with photogrammetry and drones.

## **REFERENCES PROVIDED UPON REQUEST**

I also take contract work. No challenge is too daunting. No job is too small.