

# GLENN S. GORDON

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Portfolio: [www.GlennSGordon.com](http://www.GlennSGordon.com)

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## INNOVATIVE MECHANICAL DESIGN ENGINEER

Goal-oriented and resourceful professional with extensive track record of success in product design and development. A hands-on, creative, and innovative thinker with a wide range of skills, including product conceptualization, engineering, prototyping, testing, and manufacturing. Tenacious, proactive, self-starter, who passionately pursues challenges with vigor.

## SKILLS

- **Design and Engineering:** Proven skill in creating imaginative, cost-saving solutions via multi-function component design, modular concepts, efficient use of raw materials, and minimal fabrication requirements.
- **Fabrication and Manufacturing:** Extensive design experience in sheet metal, machining, welding, injection molding, rotational molding, vacuum forming, pressure forming, die-cutting, investment casting, aluminum extrusion, compression cutting, composites, including vacuum bagging, wet layup, resin infusion, and foam core construction.
- **Technical Knowledge:** Materials, mechanics, hydraulics, pneumatics, automated electrical control systems, programmable logic controllers, AC, DC, and basic electronic systems.
- **Project Management:** Demonstrated aptitude to successfully manage both long and short-term product design, development, construction, and manufacturing projects, from initial planning stages, design and prototype, through refinement, manufacturing, and deployment.
- **Prototyping:** Craftsman-level fabrication skills, including extensive sheet metal experience, machining, riveting, CNC router programming, composites, plastics, woodworking, and finishing systems.
- **CAD and Design Tools:** PTC Creo Parametric, Simulate 3.0 FEA, Windchill, Solidworks, FloTherm, Trace-pro, top-down design, solid modeling, advanced surfacing, motion skeletons, mechanism, master model technique.

## PATENT INVENTORSHIPS & AWARDS

- US Utility Patent 2022/0012972 A1 Jan. 13, 2022
- US Utility Patent 11,132,859 B2 Sep. 28, 2021
- US Utility Patent 10,629,020 B1 Apr. 21, 2020
- US Utility Patent 10,043,333 B1 Aug. 7, 2018
- US Utility Patent 9,875,593 B1 Jan. 23, 2018
- US Utility Patent 9,830,762 B1 Nov. 28, 2017
- US Utility Patent 9,437,069 B1 Sep. 6, 2016
- US Utility Patent 8,545,295 B2 Oct. 22, 2014 (See last page, Certificate of Correction)
- US Utility Patent 8,701,860 B1 Apr. 22, 2014 (See last page, Certificate of Correction)
- US Utility Patent Application 2021/0049853 A1 Published Feb. 18, 2021
- US Utility Patent Application 2020/00327763 A1 Published Oct. 15, 2020
- US Utility Patent Application 2020/0250914 A1 Published Aug 6, 2020
- US Utility Patent Application 2020/0219352 A1 Published Jul. 9, 2020
- US Utility Patent Application (Confidential, Non-publication Requested) filed Dec. 18, 2019
- CA Patent Application CA 30665981 A1 filed Jul. 4, 2020 (Not Available Electronically)
- GB Patent Application GB 2582055 A filed Mar. 1, 2020
- 2020 Annual Cummins-Allison Corp. John E. Jones Innovation Award - Feeder Plate Design
- 2019 Annual Cummins-Allison Corp. John E. Jones Innovation Award - JetScan Select Mechanical Innovations
- 2018 Annual Cummins-Allison Corp. John E. Jones Innovation Award - Money Machine Coin Recycling

## EXPERIENCE

**Senior Mechanical Solutions Engineer, NSG Thermal Mechanical Group** **October 2021 – Present**  
**Intel Corporation / Solidigm Technology, Folsom CA**

Manufacturer of technically advanced Solid State Drives (SSDs) for use in data center and server applications.

Improving department efficiency and productivity by working to establish group design standards. Serving in mentoring roles for junior engineers and interns, to familiarize them with various fabrication methods and design practices.

- Leading E1.L SSD form-factor cost reduction efforts, including DFM and DFA considerations, to evolve new fabrication and manufacturing processes, moving away from traditional machining-intensive construction.
- Innovating in the development of liquid immersion cooling systems for future generation SSDs, for thermal solutions beyond the capability of traditional airflow cooling.
- Closely interfacing with manufacturing and PCB developers to optimize next-generation AiC PCIe SSDs mechanical design, 1500g shock and survivability, and computational fluid dynamic and wind-tunnel correlated thermal solutions.

**Senior Mechanical Solutions Engineer (Independent Contractor)** **July 2020 – Dec 2020**  
**Coinstar - LLC, Bellevue, Washington**

Financial Tech Company focusing on the conversion of coin into paper currency, donations, Bitcoin, and gift cards via worldwide kiosk network.

Critical and time-sensitive projects assigned by Senior VP of Technology related to the immediate lifespan, COVID-19 safety, and servicing of kiosk network. Vital role to protect company's secured position in the Financial Tech marketplace.

- Sourced and recommended four independent printer replacements for 22,000 kiosks to fit non-standard hardware, software, mechanical integration, technician, and user interface. Recommendation fed \$10M+ decision in order to eliminate dependency on any one printer manufacturer, due to imminent end-of-life supply crisis from current vendor.
- Tasked with the research and development of various means to make kiosks safe for consumers from SARS-CoV-2 while protecting delicate electronic components of the kiosks. Provided recommendations and procedures which are utilized by field service technicians.
- Conducted comprehensive study of historical failure modes to develop methodology to predict and proactively reduce maintenance burden per kiosk. Analysis focused on linear regression, multiple regression, and survival analysis.

**Senior Mechanical Design Engineer / Special Projects Development** **Nov 2005 – Apr 2020**  
**Cummins-Allison Corporation, Mount Prospect, Illinois**

Manufacturer of high-speed coin and currency counting, sorting, and counterfeit detection equipment.

Reported directly to the company President as a free thinker and idea generator for new product concepts and designs, principles of operation, prototypes, feasibility, and other engineering problem-solving challenges.

- As mechanical lead on Cummins-Allison's projects, coordinated product development across various disciplines, including mechanical/manufacturing engineering, hardware/software, product management/service, and marketing.
- Served as lead mechanical engineer on multiple R&D and product development projects. Managed computer aided design (CAD) models for top-down design and motion skeleton management, industrial design, master model technique for enclosures, internal mechanisms, note/coin paths, switchers, diverters, transportation, and containment.
- Led cost reduction efforts on current designs and redesigns by reducing part count, and by creating multi-function modular components which served to minimize material use, increased reliability, decreased noise levels, reduced assembly labor, and decreased service interval and effort.

**Electro-Mechanical Design Engineer / Manufacturing Engineer** **Jan 1996 – Oct 2005**  
**Protech Structural Industries (PSI), Arlington Heights, Illinois**

Manufacturer of automated teller machine (ATM) kiosks and enclosures, pneumatic cash transfer systems, and other banking equipment.

- Designed, prototyped, and managed all PSI engineering projects since company's inception including: Modular ATM buildings, ATM surrounds, ATM security, environmental controls, free-standing canopies, illuminated building sign boxes, vehicle clearance barriers, pneumatic cash transfer systems, turbine packs, and air-shifting valves.
- Interfaced directly with PSI's network of equipment dealers and direct sales customers for product support, graphics and artwork specifications, customization needs, and customer feedback for product improvement.
- Created the Evolution Series modular ATM buildings using pioneering monocoque construction techniques using welded tube fabrication helping to secure PSI's market position and enabled acquisition of key accounts from major industry competitors.

## CONSULTING

### **Mechanical Design Engineer / Manufacturing Engineer**

**Mar 2017 – Present**

#### **Timber Tiger Aircraft LLC (Startup), Montrose, Colorado**

Aircraft kit designer/manufacturer specializing in vintage replica and vintage-style experimental aircraft.

- Create complete detailed CAD modeling of airframe structure, control systems, cowling, landing gear, and fairings, using only draft concepts and original vintage plans and photographs.
- Designed production tooling for molds, forms, jigs, bucks, fixtures, and implemented various manufacturing methods.
- Prototype aircraft is currently in Phase I flight testing and evaluation for experimental/amateur built category aircraft.

### **Mechanical Design Engineer / Manufacturing Engineer**

**Jan 2009 – Sep 2015**

#### **MotoPOD LLC, (Startup), Poplar Grove, Illinois**

Manufacturer of removable aircraft belly pods, folding motorcycles, and aircraft loading systems.

- Managed the design and construction of a composite pod used in cargo and airborne sensing applications for installation onto Van's RV-10 and Cirrus SR-22. Design is currently in flight testing and design evaluation for supplemental type certificate (STC) installation onto standard category aircraft.
- Designed cargo pod shell and associated structures, fuselage hard points, automatic fuselage latching system, sensor integration, and tooling. Work included load testing, installation of fixtures, plugs, molds, and CNC toolpaths. Structures included composite foam core sandwich construction, fixture welded 4130 steel hard points, aircraft mounting provisions, installation procedures, and design accommodations for various sensor packages.
- Created all CAD models associated with Van's RV-10 and Cirrus SR-22 pod designs, utilizing parametric top-down design methodology, mechanism design, and finite element analysis (FEA).
- Designed, prototyped, tooled, and produced the MotoLOAD system: A folding motorcycle loading system for the Piper PA-32 and PA-34 series aircraft. This system fits into the aircraft cabin footwell, installs in minutes without tools, and was engineered to bypass the need for an STC with full approval by the FAA for FAR Part 91 operations.

## EDUCATION AND PROFESSIONAL DEVELOPMENT

### **Intel Corporation**

ASME Y14.5-2018 Geometric Tolerancing and Dimensioning

### **TriStar: CAD, PLM, Product & Solution Specialists**

Coursework Included: Wildfire, Creo, Advanced Modeling, Surface Modeling, FEA, Advanced Assembly.

### **University of Wisconsin, Madison, College of Engineering**

Coursework Included: Computer Tools for Engineering and Computer Tools for Engineering Project Management.

### **Southern Illinois University, Bachelor of Science, Aviation Management**

Cum Laude, Dean's list all semesters

Coursework Included: Management, labor relations, planning, operations, technical writing, and CAD.

### **Southern Illinois University, Associate in Applied Science, Aviation Flight**

Cum Laude, Dean's list all semesters

Coursework Included: Mechanical, hydraulic, fluid, electric and electronic systems, logic, and physics.

## PERSONAL

- EAA AirVenture Solidworks Instructor and Flight Simulator Instructor.
- FAA Commercial Pilot License with Instrument, Multi-engine, and Glider Ratings, Glider Tow, High Performance, Complex, Aero-tow, Self-Launch and Tail-wheel endorsements.
- Restored 1941 Boeing Model #75 "Stearman". Built RV-6 Kitplane. Maintained, flew, and completed various rebuild projects on the 1987 Oshkosh Grand Champion Marquart MA-5 "Charger".
- Hobbies: Sport aerobatics, aircraft design, homebuilt experimental aircraft, aircraft restoration, astronomy, telescope design and construction, home design and remodeling, camping, reading, chess, and piano.