GLENN S. GORDON

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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, DFM/DFA, efficient use of raw materials, and minimal fabrication requirements.
- **Technical Knowledge:** Materials, mechanics, hydraulics, pneumatics, automated electrical control systems, programmable logic controllers, AC, DC, and basic electronic systems.
- **CAD and Design Tools:** PTC Creo Parametric, Solidworks, Sigmetrix CETOL, Simulate FEA, Windchill, FloTherm, Trace-pro, top-down design, advanced surfacing, motion skeletons, mechanism, master model technique.
- **Prototyping:** Craftsman-level fabrication skills, including extensive sheet metal experience, machining, woodworking 3-D Printing / Additive Manufacturing, CNC router programming, composites, plastics, and various finishing systems.
- **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, and composites, including vacuum bagging, wet layup, resin infusion, and foam core construction.
- **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.

PATENT INVENTORSHIPS & AWARDS

- US Utility Patent 11,776,345 B2, Oct 3, 2023
- US Utility Patent 11,734,983 B1, Aug. 22, 2023
- UK Patent GB 2,582,055 B, Dec. 10, 2022
- US Utility Patent 11,514,743 B2, Nov. 29, 2022
- US Utility Patent 11,443,581 B2, Sep. 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 2022/0012972 A1, Published Jan. 13, 2022
- US Utility Patent Application 2021/0049853 A1, Published Feb. 18, 2021
- US Utility Patent Application 2020/0327763 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
- 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 Thermal/Mechanical Engineer, Data Center Engineering Group **October 2021 – November 2023**
Solidigm (Strategic sale/merger from Intel & SK Hynix), Rancho Cordova, California
Manufacturer of cutting-edge solid-state drives (SSDs) for use in data center and server applications.

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

- As Thermal/Mechanical lead for the E1.L form factor, released the 9.5mm and 18mm versions of D5-P5336. At 61.44TB, this SSD is currently the world's highest capacity PCIe datacenter SSD, twice that of other SSDs in its class.
- Implemented cost reduction through leading efforts on E1.L SSD form factor to evolve new construction methodology, generating new intellectual property, and moving away from traditional machining-intensive construction.
- Created hybrid E1.L SSD form factor, allowing for reuse of over $70,000 of existing automated assembly fixtures, $20,000 in existing tooling, and $375,000 in existing materials.
- Functioned as team superuser and mechanical lead of Windchill software for integration committee, charged with roadmapping and implementing business and engineering processes, features, and CAD integration.

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.
- Researched and developed various means to make kiosks safe for consumers from COVID-19 while protecting delicate electronic components of the kiosks. Provided recommendations and procedures which continue to be utilized by field service technicians.
- Conducted comprehensive study of historical failure modes to develop methodology to predict and proactively reduce maintenance burden per kiosk. Methods included 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 minimized 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 in place of welded tube fabrication, helping to secure PSI's market position and enabling acquisition of key accounts from major industry competitors.

CONSULTING

Mechanical Design Engineer / Manufacturing Engineer / Consultant **Mar 2017 – Present**
Timber Tiger Aircraft LLC (Startup), Montrose, Colorado
Aircraft kit designer/manufacturer specializing in vintage replica and vintage-style experimental aircraft.

- Created 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.
- Flew prototype aircraft to AirVenture / Experimental Aircraft Association after completing Phase I flight testing and evaluation for experimental/amateur built category aircraft.
- 51 Subkits sold by Timber Tiger Aircraft are currently in various phases of construction.

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. Completed design and construction up through 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 under FAR Part 91 operations.

EDUCATION AND PROFESSIONAL DEVELOPMENT

Intel Corporation
ASME Y14.5-2018 Geometric Dimensioning and Tolerancing

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

- Experimental Aircraft Association Solidworks Instructor, Technical Counselor, and Guest Speaker.
- Currently building experimental Timber Tiger Aircraft Ryan ST-L kitplane (Timber Tiger Aircraft, see above).
- FAA Commercial Pilot License with Instrument, Multi-engine, and Glider Ratings, and Glider Tow, High Performance, Complex, Aero-tow, 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: aircraft design, homebuilt experimental aircraft, aircraft restoration, astronomy, telescope design and construction, home design and remodeling, camping, reading, chess, and piano.