Graham Powers-Baldi
Mechanical Design Engineer

Profile Summary
Mechanical engineer with a cross-disciplinary design approach and wide range of experience. Proven track record of independently identifying problems, accounting for unknowns, and producing novel solutions with tangible business results. Flexible, collaborative, and hands-on.

Contact
(303) 928-9161
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Education
2013 - 2017
University of Colorado, Boulder
- ❖ BS in Mechanical Engineering
- ❖ Minor in Computer Science

Certifications
- ❖ Registered EIT in State of Colorado
- ❖ Certified SolidWorks Associate
- ❖ AWS Certified Welding Inspector

Skills
CAD/CAE
- ❖ Solidworks (CSWA, >10000 hours)
- ❖ ANSYS Mechanical
- ❖ ANSYS Fluids
- ❖ SolidWorks Flow Simulation
- ❖ RISA-3D
- ❖ MIDAS FEA
- ❖ AutoCAD

Manufacturing & Methods
- ❖ DFM
- ❖ FMEA
- ❖ Below-The-Hook Design
- ❖ Sheet Metal
- ❖ Weldments
- ❖ Castings
- ❖ Thermoforms

Controls/PLC
- ❖ Siemens TIA Portal (SIMATIC STEP 7)

Programming Languages
- ❖ C
- ❖ C++
- ❖ Java
- ❖ Python
- ❖ C#
- ❖ Arduino
- ❖ Matlab

Industry Experience

Senior Mechanical Design Engineer - Core Technology Group   7/22-8/25
Monolith Materials   Denver, CO & Lincoln, NE
- ❖ **Extended average run length >4X** with fouling-prevention designs, increasing revenue by that same amount and reducing yearly cost due to outage frequency by 75%.
- ❖ **Eliminated per-run replacement on critical parts** operating under extreme radiative heat loads and ambient temperatures; Consumption rates reduced from 100% to 0%, saving on both material and outage labor costs.
- ❖ **Eliminated instances of product instability** due to injection malfunction; eliminated majority of revenue loss due to disqualified product.
- ❖ **Cut part costs >50%** and **reduced lead times up to 6 weeks** by redesigning for manufacturability and qualifying new vendors; Prevented considerable expenditures due to downtime associated with replacing parts by focusing on DFM.
- ❖ **Led dozens of cross-disciplinary design efforts** from conceptual design through to in-service implementation; **worked closely with operators, maintenance personnel, and manufacturers** to iterate and optimize designs.
- ❖ Worked closely with operators and manufacturers to implement and iterate designs; travelled domestically and internationally to oversee manufacture and implementation and ensure quality
- ❖ **Produced in-depth mechanical and thermal simulations** to de-risk complex designs operating in an extreme environment; questioned limits and quantified unknowns to optimize designs without taking undue risks.
- ❖ Designed OSHA/ASME-compliant lifting and handling devices that reduced outage task time and operator burden; created robust SOPs, inspection, and maintenance documentation for field use.

Lead Mechanical Engineer   5/18-5/22
Origin MEC   Windsor, CO
- ❖ **Led a small cross-functional team of engineers and fabricators** delivering custom automation and robotics solutions; owned projects **from concept through to field deployment and support.**
- ❖ **Produced hundreds of drawings** optimized for cost and cycle time; collaborated daily with machinists and fabricators to reduce time and waste while maintaining quality.
- ❖ Managed vendor sourcing, contract negotiations, IT, and QA; performed weld inspections as an AWS CWI and handled field engineering to solve problems quickly.
- ❖ Worked closely with clients from across **dozens of disparate industries**, including Oil and Gas, Solar, Wind, Industrial Agriculture, Ceramics Manufacturing, Geostabilization, Telecom, and Rigging.
- ❖ **Produced robust structural and thermal analyses utilizing FEA and CFD** for both in-house designs and for clients looking to verify third-party designs.

Technical Support Intern   5/17-5/18
Vestas Blades Americas   Windsor, CO
- ❖ Supported sustaining engineers with design engineering and field engineering for projects beyond their scope and available resources; designed and implemented remote-controlled turbine blade transport dolly still in use at facilities today.