

# Andrew F. McGraw

## Objective

·Seeking a Mechanical Engineering role in the vehicle industry, where I can contribute to the design, prototype, and production process, while gaining new skills and knowledge.

## Strengths

·Formal mechanical engineering education combined with hands-on experience in a broad range of fields. Self-motivated, knowledgeable, hardworking, fast learner, team player.

## Computer Skills

·CATIA V5 R12-R18 (5600+ hrs), SolidWorks 2001-2009, Pro/ENGINEER Wildfire 2.0, MATLAB, SmarTeam, FEMPRO, COSMOSWorks, FLOWorks, LabView, MasterCAM, AutoCAD, Autoenginuity OBDII, Dynojet WinPEP, MS Office, Adobe Photoshop, and all common Windows apps.

·Experienced in system assembly/repair/maintenance/admin and data recovery. Fluent in Windows environments.

## Employment History

- Mechanical Engineer, Automotive Technology Group** 8/08-present  
Automotive component and system design using CATIA V5. Design for prototype and production manufacture of various chassis/drivetrain/electrical/body components for conventional, hybrid, and electric vehicles (3D Design/2D drawings/BOM creation). Body engineering, racecar component design, data-based and hands-on design and development, 3D scan reverse engineering, drivetrain development.
- Engineer, Vance & Hines Sport (formerly White Brothers Racing)** 4/07-8/08  
Motorcycle exhaust component design using SolidWorks, manufacturing tooling design/repair, Fuelpak EFI tuning using wideband O<sub>2</sub> and multi-channel data logging for both dynamometer and field testing, durability testing, shop workflow layout, manual machining, instruction manual writing.
- Independent contracting** 12/06-3/07
- Auto/equipment mechanic, Ashley Construction** 9/06-11/06  
Service/maintenance on heavy equipment and owner's personal collection of classic vehicles, major engine repairs, general maintenance, electrical repairs.
- Design Engineer, Honeywell Turbo Technologies** 6/05-8/06  
Mechanical design using CATIA V5 for 3D modeling and 2D manufacturing drawings of turbochargers, related components, and assemblies per ASME Y-14.5M-1994. Concept/product development and refinement in cooperation with other engineers and suppliers.

## Education

- BS in Mechanical Engineering, University of California, Berkeley** 2001-2005  
Computer-aided Mechanical Design (FEA/optimization), Advanced CAD, Mechanical Behavior of Materials, Analysis/Design/Manufacture of Composites, Materials in Manufacturing, Thermodynamics, Mechanics of Solids, Dynamics, Basic Electronics, Fluid Mechanics, Heat Transfer

## Other Experience

- Fabrication**
  - 2,3-axis CNC milling, manual mill and lathe, limited MIG/TIG. Proficient with all shop and hand tools.
  - Motorcycle/ATV exhaust fit-up and prototyping
- Vehicles/Engines**
  - UC Berkeley SAE Supermileage Vehicle engine with fuel injected 50cc Honda-based engine
  - Numerous motorcycle engine teardowns/rebuilds/modifications
  - Maintenance/repair/restoration on various foreign and domestic hybrid, gasoline, and diesel vehicles
- Electronics**
  - Extensive use of Zeitrionix engine monitoring and Dataq datalogging systems
  - Electrical experimentation and troubleshooting with DMM, oscilloscope, and function generator
  - Soldering/desoldering, PCB assembly/repair, wiring harness building

## Personal

- US citizen
- Hobbies: dirt biking, mountain biking, anything mechanical