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# R. David Hooper

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## Contact Information:

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(619)-218-3952

## Experience:

**5/06-4/07**

**Traveled around the world**

**8/02-4/06**

**Design Engineer** at MagCanica Inc.: San Diego, CA

Lead engineer and chief designer for the following four programs consisting of concept proposal, research, design, manufacturing, delivery and client support.

- Met all the qualifications and achieved a successful dyno test for the Navy SBIR Phase II (\$1.1M) Osprey engine torque meter project. The following tasks were required: rigorous planning, testing, documentation, and cooperation with Rolls-Royce engineers.
- Successfully delivered first clutch shaft torque sensor raced in F1 and for three years consistently reduced the cost of the system by an average of 20% per year
- Designed the test plan, safety procedures, hardware and chose the chemical reaction to determine the magnetization distribution in shafts through an etching and torquing process.
- Designed and constructed a 200 Amp demagnetizing apparatus that utilized relays, microprocessor, power supply, and motors.

Other engineering duties at MagCanica

- Advised other engineers with mechanical designs to reduce costs.
- Coauthored IEEE Transaction on Magnetics paper, July 2004.
- Designed/developed hardware and software for prototype of hand held track test support kit. Functional requirements involved: measure the resistance of the torque sensor, test the onboard vehicle electronics, measure the rotational signal of the system, read the output of the sensor, and display all of the information on an LCD.

**1/02-4/02**

**Stanford Medical Device Design Course**

- Member of a three person team, which consulted with doctors, to design a prototype of a multiple degree of freedom laparoscopic needle driver.
- Constructed scaled articulating prototype for demonstration and proof of concept.
- Presented final work to medical professionals and industry representatives.

**9/00-6/01**

**Stanford Smart Product Design Sequence Course**

- Team based project design sequence focusing on the application and design of electrical/mechanical systems with integrated microprocessors.
- Designed, programmed and constructed an automated droid utilizing sensors, state-machine logic, and motors to play a game of hockey.

**Summer Internships: Ford Motor Company 01 & 00, Texaco 99, Celanese 98**

**Computer Skills:** Assembly, Fortran, Visual Basic, Maple, MathCAD, Matlab, Simulink, Matlab GUI's, Pro-E, Autodesk Inventor, and Solid Edge. Programming PIC and 68HC12 microprocessors.

## Education:

**Stanford University** M.S. M.E. GPA 3.6 graduated 2002

**Oklahoma State University** B.S. M.E. GPA 3.6 graduated 1999

**Relevant Coursework:** Medical Device Design, Medical Electronics, Smart Product Design Sequence/Mechatronics, Sensors, Introduction to Robotics, FEA, CAD