MICHAEL GALVIN

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SUMMARY

I am an experienced design engineer with expertise in robotics, spacecraft, optics, 3D CAD, 2D drafting, light machining, 3D printing, laser cutting, rapid prototyping, electronics, programming (and digital music production as a hobby). I came to engineering by ways of music and philosophy degrees. I have experience providing staff engineering support to Princeton & Temple University undergrad classes. I was an original member of Philadelphia's premier makerspace (NextFab).

RELATED EXPERIENCE

Princeton University, Mechanical & Aerospace Engineering Dept. **Princeton, NJ** **3/2012-Present**

Senior Technical Support

Responsibilities:

- Principal mechanical design engineer for the Princeton High Contrast Imaging Lab (HCIL)
- Mechanical design, analysis, build, integration and test of:
  - The Suburu Telescope's CHARIS integral field spectrograph for exoplanet-finding and characterization
  - Princeton's new 80-meter starshade testbed
- Optomechanics design in support of all HCIL labs & projects
- Staff engineering support for Princeton undergraduate classes:
  - MAE 342: Space System Design
  - EGR 450: Engineering Projects in Community Service

Lockheed Martin Space Systems Company **Newtown, PA** **12/2008-2/2012**

Mechanical Design Engineer (12/2008-6/2010)
Launch Vehicle Integrator (7/2010-2/2012)

Responsibilities:

- Detailed design, analysis, change documentation, and space qualification of spacecraft structures & mechanisms
- Systems engineering for commercial and military spacecraft launch vehicle integration and launch campaigns

Temple University, Electrical Engineering Dept. **Philadelphia, PA** **5/04-8/04**

Teaching Assistant

- Instructor for "Introduction to Electrical and Computer Engineering," an undergraduate robotics course.

RELATED EDUCATION

Princeton University **Princeton, NJ** **9/2009-1/2017**

- M.Eng, Mechanical & Aerospace Engineering
- Cumulative GPA: 3.9

Georgia Tech **Atlanta, GA** **1/2005-5/2007**

- B.S., *Summa cum laude*, Mechanical Engineering (Emory/GA Tech dual degree program)
- Cumulative GPA: 3.9 (Class Rank: #23 out of 469)
- Sidney Goldin Memorial Outstanding Scholar

Emory University **Atlanta, GA** **9/2000-12/2004**

- B.A., *Highest Honors*, Philosophy (Emory/GA Tech dual degree program)
- Cumulative GPA: 4.0 (Class Rank: #17 out of 1176 in graduating class)
- Robert W. Woodruff Scholar (full tuition, room & board, highest honor for an incoming student)

RELATED SKILLS

- 3D CAD & 2D drafting (Creo, Pro/Engineer, SolidWorks, Inventor, AutoCAD, Solid Edge, I-DEAS)
- 3D printing (core expertise on a Stratasys Dimension Elite)
- Laser cutting (core expertise on a Universal Laser Systems VLS3.60, experience with large-bed cutters as well)
- Light machining (mill, lathe, CNC, drill press, grinder, woodworking tools)
- Computer programming (experience in JAVA, C++, MATLAB, Python, LabVIEW, others)
- Electronics (soldering, microcontrollers, Arduino)
- Digital music production (hobby-level experience with digital audio workstations, mixing & recording)
- Mathematical analyses (MathCAD, MATLAB, Mathematica)
- Finite Element Analysis (FEA, experience with Creo, Cosmos Works, ANSYS)
- Computational Fluid Dynamics (CFD, experience with Cosmos FloWorks)
- Optical raytracing (ZEMAX)
- Geometric dimensioning & tolerancing (GD&T), ASME Y14.5
- Configuration management via product data management (PDM) software
- Systems engineering (authorship of interface control documents & statements of work)
- Project management

OTHER EXPERIENCE

StratoComm Corporation **Eatontown, NJ** **9/07-10/08**

Mechanical Design Engineer

- Conceptual mechanical design of a WiMAX telecom payload to be mounted on a tethered aerostat.
- Conceptual mechanical design of a novel aerostat helium replenishment system prototype.

STV Inc. Consulting Engineers **New York, NY** **11/06-9/07**

Industrial Engineer

- Generated performance & design specifications, shop work instructions, and layout plans for rail maintenance equipment (such as wheel presses, wheel borers, and bridge cranes).

University College London **London, UK** **9/03-12/03**

Research Assistant

Completed a literature review under Dr. William Suen towards a project concerning the forced convective boiling of mixed refrigerants.

CERTIFICATIONS & ORGANIZATIONS

- FE/EIT Exam (October 2007)
- Certified SolidWorks Associate: (June 2008), completed SolidWorks certified training programs in Part Modeling, Advanced Part Modeling, Drawing, and CFD (COSMOS FloWorks)
- AIAA & ASME active member