

# CASEY SMITH

## EDUCATION

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2000 - 2002    Massachusetts Institute of Technology    Cambridge, MA  
*M.S. Media Arts and Sciences (The Media Lab)*

- IBM Fellow (2001)
- *Material Design for a Robotic Arts Studio*, M.S. Thesis

1995 - 1999    Montana State University    Bozeman, MT  
*B.S. Physics, Minor in Mathematics*

- Goldwater Fellow (1998-1999)
- College of Letters and Science Student of the Year (1999)
- Physics Student of the Year (1999)
- GPA: 3.9/4.0

## PROFESSIONAL EXPERIENCE

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2002-Present    Resonon, Inc.    Bozeman, MT  
*Co-Founder, Research Scientist*

- Design and development of imaging spectrometer hardware, user interface software, and data analysis algorithms
- Co-author and technical manager of over 2 million dollars of research grants from DoD, DoE, NASA, NIH, and NIST.
- Deployment of airborne remote sensing systems around the world

2011-Present    Alpha Dominche    Salt Lake City, UT  
*Co-founder, Technical Advisor, Consultant*

- Conceptual design of next-generation commercial coffee brewing system
- Prototype design and construction, microcontroller programming

2005-2011    Kennedy-Violich Architecture    Boston, MA  
*Consultant*

- Custom electronics and microcontroller hardware for the Portable Light project, a non-profit devoted to providing solar powered lighting to developing countries
- Conceptual development and electronics design for the integration of high tech materials into everyday objects

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| 1999<br><i>Laser Engineer</i> | AdvR, Inc.  | Bozeman, MT   |
|                               | <ul style="list-style-type: none"> <li>• Research and development of a frequency-doubled diode laser at 488 nm</li> </ul> |               |
| 1998<br><i>Intern</i>         | NASA Goddard  | Greenbelt, MD |
|                               | <ul style="list-style-type: none"> <li>• Research and development of a wind speed LIDAR</li> </ul>                        |               |

#### KEY PUBLICATIONS AND PATENTS

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- "Stray light characterization of an InGaAs anamorphic hyperspectral imager," M. Lin, R. Swanson, T. Moon, C. Smith, M. Kehoe, S. Brown, K. Lykke, Optics Express, Vol 18, Issue 16, 2010
- "Anamorphic Imaging Spectrometer," R.C. Swanson, T.S. Moon, C.W. Smith, M.R. Kehoe, S.W. Brown, and K.R. Lykke, Proc. SPIE 6940, 694010, 2008.
- "Measuring the MTF of imaging spectrometers at infinite focus with roof-line images," P. W. Nugent, J. A. Shaw, M. Kehoe, C. Smith, T. Moon, and R. Swanson, Proc. SPIE 6661, 66610M, 2007.
- "Compact Anamorphic Imaging Spectrometer," R. Swanson, M. Kehoe, C. Smith, T. Moon, R. Bousquet, S. Brown, K. Lykke, P. Maciejewski, K. Barnard, 2007 Meeting of the Military Sensing Symposia (MSS) Specialty Group On Camouflage, Concealment & Deception; Passive Sensors; Detectors; and Materials, Volume 1, Held 5-9 February 2007, Published by: SENSIAC Military Sensing Information Analysis Center, Georgia Institute of Technology.
- "Laser diode facet modal reflectivity measurements", K.S. Repasky, G.W. Switzer, C.W. Smith and J.L. Carlsten, Applied Optics, **39**, 2000
- M. Kehoe, C. Smith, and R. Swanson, "Scalable Imaging Spectrometer," U.S. Patent No. 7,199,877, 2007
- S. Kennedy, C. Smith, F. Violish, S. Kulper, T. Ohnstad, "Portable lighting and power-generating system," U.S. Patent No 7,825,325, 2010
- K. Bombeck, C. Dodge, and C. Smith, "Hot Beverage Brewing System and Use Thereof," U.S. Patent Application. 20120219686 A1, 2011.

## RELEVANT SKILLS

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- Mechanical Design, Solid Modeling, CAD/CAM (Solidworks, AutoCad, Gibbs)
- Analog and Digital Electronic Design and PCB Layout (Eagle, Protel)
- Microcontroller Programming (C/C++, Arduino, BASIC)
- Software Programming (Python, C/C++, MATLAB, Eclipse, SVN)
- Mathematical Modeling, Algorithm Development, Data Mining, Machine Learning
- Optical Benchwork, Laser Engineering, Alignment and Calibration of Imaging Instruments
- CNC and Manual Machining, Rapid Prototyping, TIG/MIG Welding, Brazing, General Metalwork
- Proposal Authoring, Technical Writing, Patent Research, Fund Raising, Business Development