

Alex Abrams

asa67@cornell.edu • (914) 450-8448 • 116 S O'Leary St, Flagstaff, AZ, 86001

Education **Cornell University**, College of Engineering
Bachelor of Science in **Mechanical and Aerospace Engineering**, May 2015
GPA: 3.16, **Dean's List** Fall 2011

Work Experience **Research and Development Engineer** Fall 2015 - Spring 2017
Creare LLC, Hanover, NH
Contributed to the success of a wide array of SBIR-funded research and development projects for large-scale government and private clients. Demonstrated versatility of skills and the ability to fulfill multiple roles in the firm. Significant projects included mobile and desktop application development for medical research, laser metrology system testing and deployment, development of a hardware-software interface for star tracking satellites, design and analysis of cryocooler systems, analysis of the motion of a catch and release system for naval aircraft, and video game development for educational uses.

Engineering Intern Summer 2014
Innovative Dynamics, Inc., Ithaca, NY
Performed ANSYS Multi-Phase CFD simulations for design optimization of a cyclonic particle separator. Programmed Ice-Detection software in C for a Ubuntu Unix-based environment.

Engineering Interests

- Dynamic System Analysis
- Finite Element Analysis
- Technical Writing
- Algorithms and Software Development
- UI Design
- Product Testing

Skills

Engineering Applications

- ANSYS (Fluent CFD, Structural)
- Solidworks / Inventor
- Matlab
- LabVIEW

Programming Experience and Tools

- Application Development (Python, C#)
- Web Development (JavaScript, HTML, CSS)
- Video Game Development (Unity)
- Version Control (git, SVN)
- Firmware Development (C)
- Java, C++, Visual Basic

Research Experience **Senior Design Project: Autonomous Bicycle** Spring 2015
Cornell University Biorobotics and Locomotion Lab, Ithaca, NY
Optimized bicycle controller utilizing non-linear dynamics and evolutionary optimization algorithms (CMA-ES).

Sabbatical During the spring of 2017, I voluntarily left my position at Creare LLC to take time to explore my passion of climbing and outdoor recreation. Before embarking on my travels, I outfitted my own custom mobile home that I used to travel around the continent. Now at the end of this time off, I have gained a new appreciation for the value of meaningful work and a healthy work-life balance. Looking forward to relaunching my career in engineering, I feel more energized and prepared to tackle the challenges of my field than I ever have before.

References available upon request.

Additional Experience	<u>Vice President and Climbing Chairperson</u> <i>Cornell Outing Club, Ithaca, NY</i>	2012-2015
	Facilitated club meetings and ran climbing excursions for all ability levels. Procured funding from the university for new climbing gear. Ordered, organized, and maintained gear for the club. Negotiated with university administration to secure a new meeting and equipment storage facility for the organization.	
	<u>Trip Leader</u>	Summer 2013
	<i>Outdoor Odyssey Program through Cornell Outdoor Education, Ithaca, NY</i> Lead a group of incoming Cornell freshman on a week-long backpacking and rock climbing excursion in the Catskill mountains of New York. Taught lessons in rock climbing skills and safety, backcountry cooking and camping, and wilderness travel and navigation.	
	<u>Outdoor Program Facilitator</u>	Summer 2013
	<i>Cornell Adult University Summer Camps, Ithaca, NY</i> Directed programs in rock climbing, ropes course activities, canoeing, and hiking.	
	<u>Research Assistant</u>	Summer 2012
	<i>Cornell University Department of Electrical and Computer Engineering, Ithaca, NY</i> Wrote a device driver program for a new Microwave Transition Analyzer using C++ and IC-CAP software.	

Additional Coursework	<u>NOLS Waddington Range Mountaineering</u> <i>National Outdoor Leadership School, Mt Vernon, WA</i>	Summer 2012
	Participated in a rigorous month-long glacier mountaineering expedition in the British Columbia coast range.	
	<u>Wilderness First Responder</u>	Summer 2012
	<i>Cornell Outdoor Education, Ithaca, NY</i> Learned wilderness first aid and rescue skills in preparation for leading a backpacking a rock climbing trip for incoming Cornell freshman.	
