Ben **Hammel**

Palo Alto, CA

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Education

Doctorate of Philosophy - Physics — *The University of Nevada, Reno* — *Aug. 2016*

Graduate Minor - Business Administration — *The University of Nevada, Reno* — *June 2014*

Bachelor of Science - Physics — *The University of California, Santa Barbara* — *June 2010*

Experience

Mythic Inc.

Redwood City, CA

Deep Learning Scientiest — *Mar. 2018 - Present*

- Leading rapid-prototyping projects to explore **real-world application** of cutting-edge deep learning solutions in computer vision

Insight Data Science

Palo Alto, CA

Technical Advisor — *Mar. 2018 - Present*

- Providing **mentorship for research and engineering projects** across a variety of applications in the deep learning space
  - Computer vision
  - Generative Adversarial Networks
  - Deep Reinforcement Learning

Artificial Intelligence Fellow — *Jan. 2018 - Mar. 2018*

- Consulted for Harvesting Inc., focused on leveraging AI and remote-sensing to assist farmers in rural areas and developing countries
- Engineered and implemented a **deep neural network** for **object detection** and identification in high-resolution satellite images
- Applied techniques in **transfer learning** and **data augmentation** to achieve high-accuracy in performance despite limited data

Institute for Shock Physics

Pullman, WA

Postdoctoral Researcher - Warm Dense Matter Group — *Oct. 2016 - Jan. 2018*

- Worked with a small team to develop a high-intensity laser system for a first-of-its-kind research facility
- **Spearheaded research efforts** encompassing multiple engineering disciplines: electrical engineering, mechanical engineering, chemistry, and computer programming
- Developed routines using Python for **error analysis**, interfacing with commercially-available software, and **image processing** to streamline the work of colleagues

Nevada Terawatt Facility

Reno, NV

Graduate Researcher - Pulsed Power Group — *Aug. 2011 - Sep. 2016*

- **Organized interdisciplinary teams** (∼5 people) on a biannual basis to complete short-term (∼2 week), high-value (>$30,000), projects to support the interests of the Department of Energy and National Nuclear Security Agency
- Built and fielded **highly-technical diagnostic systems** (optical, X-ray, and nuclear) to explore fundamental questions in high-energy-density physics
- Performed physics simulations, using **massively-parallel computing platforms**, to analyze and interpret experimental results

Lawrence Livermore National Laboratory

Livermore, CA

Bachelor level scientist & student intern - Physics and Advanced Technologies — *June 2007 - July 2011*

- Designed and built scientific equipment and diagnostic systems - used at Lawrence Livermore National Laboratory, Argonne National Laboratory, and the Stanford Linear Accelerator
- Performed experiments studying materials under high-pressure (> 1 Million Atmospheres), resulting in several **high-impact publications**

Skills

Scientific expertise	High-energy-density experimental physics - matter under extreme conditions
Languages	Python (10+ years), Yorick (5 years), and C++ (2 years)
iOS & web development	Django, Swift, HTML, CSS, and Javascript
Machine learning	TensorFlow, Keras, and Scikit-learn
Best Practices	PEP8, test driven development, Travis CI, Docker, version control (git)
Rapid-prototyping & design	Machining, welding, CAD, and analog/digital circuit design