

Albert Lee

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Education

Harvard University

PhD in Physics

NSF GRFP Fellow (2011 – 2014)

Cambridge, MA

(projected) November, 2017

Massachusetts Institute of Technology

BS in Physics

Malcolm Cotton Brown award for a senior planning to pursue graduate studies in experimental physics.

Cambridge, MA

June, 2010

Skills

Programming: IDL, C, C++, Python, Matlab

Operating Systems: Windows 7, Linux

Experience

Harvard University

Research Fellow, Finkbeiner group

Cambridge, MA

2013 – 2017

- Developed a customized Metropolis Hastings sampler for extracting a faint second-order signal from a noisy data set.
- Optimized algorithm for speed and numerical accuracy.
- Created a new map of galactic dust reddening, a data product of interest to most of the observational astronomy community.

Harvard University

Teaching Fellow, Introduction to Mechanics

Cambridge, MA

Fall 2015

- Led multiple sections. Showed alternate ways to think about lecture topics and expanded students' understanding of core concepts.
- Explored multiple teaching methods. Converged on optimal strategy with students' feedback.

Massachusetts Institute of Technology

Undergraduate Researcher, Sciolla group

Cambridge, MA

2009 - 2010

- Proved that CCD images acquired by the Dark Matter Time Projection Chamber (DMTPC) have non-uniform gain.
- Designed and conducted experiment to identify and calibrate non-uniform gain. Developed calibration procedure that improved signal to noise by factor of 2.5.

Undergraduate Researcher, Sciolla group

2008

- Developed a new software package to address the need for a quicker alternative that could still reliably simulate the physics of the DMTPC.
- Simulated WIMP particle interactions, noise sources, and detector efficiency. Used by collaboration to determine projected limits on detector sensitivity.

Other Skills and Interests

Languages: Conversational Korean, some Spanish and Japanese

Visual/graphics Software and Skills: Photoshop, InDesign, Flash, Latex, illustration, animation

Interests and Hobbies: Visual art, Film, Music, Violin, Walking tours of cities