Christopher N. Beaumont

Curriculum Vitae

Contact

Software Engineer
Counsyl
180 Kimball Way
South San Francisco, CA 94080
cbeaumont@counsyl.com

http://www.chrisbeaumont.org
http://github.com/ChrisBeaumont

Education

Institute for Astronomy, University of Hawai'i at Manoa Honolulu, HI
Ph.D Astronomy
January 2014
Dissertation Topic:
Morphological Diagnostics of Star Formation in Molecular Clouds *(Advisors: Jonathan P. Williams and Alyssa A. Goodman)*

Institute for Astronomy, University of Hawai'i at Manoa Honolulu, HI
M.S. Astronomy
Fall 2009
Research:
Molecular Rings around Interstellar Bubbles, and the Thickness of Star Forming Clouds *(Advisor: Jonathan P. Williams)*
Astrometric Data Analysis in the Era of All Sky Surveys *(Advisor: Eugene A. Magnier)*

Calvin College Grand Rapids, MI
B.S. Physics
May 2007
Minors in Mathematics and Astronomy
GPA 3.94 (Overall), 3.99 (Major)
Graduated with Honors

Employment

1/2015-Present **Counsyl**
Software Engineer

11/2013-12/2014 **Harvard-Smithsonian Center for Astrophysics**
Senior Software Engineer

02/2014-12/2014 **Paradigm4, Inc.**
Contract Software Engineer: SciDB-Py development

06/2013–12/2013 **Harvard School of Engineering and Applied Science**
Head Teaching Fellow for CS109: Data Science

09/2010–11/2013 **Harvard-Smithsonian Center for Astrophysics**
Predoctoral Research Fellow (*Advisor: Alyssa A. Goodman*)

09/2007–11/2013 **University of Hawai'i at Manoa**
Undergraduate astronomy T.A. and Lab Assistant (9/2007 – 5/2008)
Research Assistant (*Advisor: Jonathan P. Williams*)
Research Assistant (*Advisor: Eugene A. Magnier*)

01/2012–06/2012 **Harvard University**
Teaching Fellow, EMR 19 *The Art of Numbers*
An undergraduate-level data visualization course for non-science majors
Professor: Alyssa Goodman

01/2011–06/2011 **Harvard-Smithsonian Center for Astrophysics**
Teaching Fellow, AY 201B *The Interstellar Medium*
Graduate-level course on the interstellar medium and star formation
Professor: Alyssa Goodman

06/2006–08/2008 **MIT Haystack Observatory**
REU Student
Title: SiO Masers in the Orion BN-KL Outflow
Advisor: Shep Doeleman

06/2005–08/2005 **National Solar Observatory**
REU Student
Title: Supernovae Detection Techniques for Small Robotic Telsecopes
Advisor: Mark Giampapa

09/2003–05/2007 **Calvin College**
Physics, Astronomy, and Mathematics Tutor
Observatory Assistant
Head Student Observer (2004–2005)
Physics Lab Assistant / Grader

Honors

University of Hawaii University Research Council Award
Awarded in 2012

ARCS (Achievement Rewards for College Scientists) Foundation – Honolulu Chapter
Awarded in 2012
Also named Honolulu-ARCS Scholar of the Year in 2012

Harvard Institute for Applied Computational Science:
2012 Computational Challenge Winner
Awarded in 2012 for developing a new, efficient strategy for clearing debris off city roads after natural disasters.

PiCloud Academic Research Grant
Awarded in 2011

Smithsonian Astrophysical Observatory Predoctoral Fellowship
Awarded in 2011

Friends of the IfA Award for Excellent Masters-Level Research
Awarded in 2008

Barry M. Goldwater Scholarship Honorable Mention
Awarded in 2006

Calvin College McGregor Sophomore Scholar
Awarded in 2004

Calvin College Presidential Scholarship
Awarded in 2003

Howard Hughes Medical Institute Scholarship
Awarded in 2003

Publications

Journal Papers

"The Milky Way Project: Leveraging Citizen Science and Machine Learning to Detect Interstellar Bubbles"
Beaumont, Christopher N.; Goodman, Alyssa A.; Kendrew, Sarah; Williams, Jonathan P. 2014 ApJS, in press.

"Quantifying Observational Projection Effects Using Molecular Cloud Simulations"
Beaumont, Christopher N.; Offner, Stella S.R., Shetty, Rahul; Glover, Simon C.; Goodman, Alyssa A. 2013 ApJ, 777, 173B

"A Simple Perspective on the Mass-Area Relationship in Molecular Clouds"
Beaumont, Christopher N.; Goodman, Alyssa A.; Alves, João F.; Lombardi, Marco; Román-Zúñiga, Carlos G.; Kauffmann, Jens; Lada, Charles J. 2012 MNRAS 423, 2579

"The linewidth-size relationship of dense structures in the Central Molecular Zone"
Shetty, Rahul; **Beaumont, Christopher N.**; Burton, Michael G; 2012 MNRAS 425, 720

"A Bubbling Nearby Molecular Cloud: COMPLETE Shells in Perseus"
Arce, Hector G.; Borkin, Michelle A.; Goodman, Alyssa A.; Pineda, Jaime E.; **Beaumont, Christopher N.** 2011, ApJ, 742, 105

"Classifying Structures in the ISM with Support Vector Machines:
The G16.05-0.57 Supernova Remnant"
Beaumont, Christopher N.; Williams, Jonathan P.; Goodman, Alyssa A. 2011, ApJ, 741, 14B

"Building an Optimal Census of the Solar Neighborhood with Pan-STARRS Data"
Beaumont, Christopher N.; Magnier, Eugene A. 2010, PASP, 122, 1389

"Molecular Rings around Interstellar Bubbles and the Thickness of Star-Forming Clouds"
Beaumont, Christopher N.; Williams, Jonathan P. 2010, ApJ, 709, 791

"Discerning the Form of the Dense Core Mass Function"
Swift, Jonathan J.; **Beaumont, Christopher N.** 2010, PASP, 122, 224

"Diverse Protostellar Evolutionary States in the Young Cluster AFGL961"

Williams, J. P.; Mann, R. K.; **Beaumont, C. N.**; Swift, J. S.; Adams, J. D.; Hora, J.; Kassis, M.; Lada, E. A.; Roman-Zuniga, C. G. 2009, ApJ, 699, 1300-1306

"Lightcurve Analysis of a Magnitude Limited Asteroid Sample"
Molnar, L.A.; Haegert, M.J.; **Beaumont, C.N.** et al. 2008 Minor Planet Bulletin 35, 9M

Conference Presentations

"Hackable User Interfaces and the Future of Data Visualization in Astronomy"
Beaumont, Christopher N.
2014 September Seamless Astronomy Colloquium, Harvard University

"Hackable User Interfaces with Glue"
Beaumont, Christopher N.
2014 Boston DataCon, Microsoft NERD Center

"Exploratory Data Visualization with Glue"
Beaumont, Christopher N.
2014 Harvard-Heidelberg Conference on Star Formation, Models, and Visualization

"Data Analysis with SciDB-py"
Beaumont, Christopher N.; Poliakov, Alex
2014 PyData Conference, Menlo Park, CA

"Multidimensional Data Exploration with Glue"
Beaumont, Christopher N.; Goodman, Alyssa A; Robitaille, Thomas P; Borkin, Michelle A
2013 SciPy Conference, Austin, TX

"Linked Data Visualization in Astrophysics"
Beaumont, Christopher N.; Goodman, Alyssa A; Borkin, Michelle A; Robitaille, Thomas P
NRAO ALMA Software Workshop 2011

"Classifying Structures in the ISM with Machine Learning Techniques"
Beaumont, Christopher N; Goodman, Alyssa A; Williams, Jonathan P. AAS 2011

"SiO Masers in the Orion BN-KL Outflow"
Beaumont, Christopher N; Doeleman, Sheperd S. AAS 2007