Résumé

Roban Hultman Kramer

CONTACT INFORMATION

Home	**Work**
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SUMMARY

Proficient programmer passionate about science with a background in astrophysics.

TECHNICAL SKILLS

Proficient in: Python, Perl, Java, IDL, Mathematica.
Data Visualization: innovative display of complicated datasets.
Data Analysis: Bayesian inference, Markov chain Monte-Carlo algorithms.
Numerical Techniques: implementation and application of numerical algorithms.
Server Administration: Linux, Apache, SSH.
Programming Environment: Git (and GitHub), Bash, Emacs, IPython.
Data Formats: HTML & CSS, XML, LaTeX, HDF5, SQL.

EDUCATION

PhD in Astronomy, Columbia University, 2009
MA and MPhil in Astronomy, Columbia University, 2007
BA in Astrophysics, Swarthmore College, 2003, with High Honors

EXPERIENCE

Applied good software development practices (version control, documentation, and testing) to scientific software, using Git and GitHub for collaboration. See code examples at http://roban.github.com.

Wrote the widely used CosmoloPy Python package, an API for cosmological distance calculations (http://roban.github.com/CosmoloPy/).

Crafted SQL queries to mine astronomical databases, like the Sloan Digital Sky Survey, for scientifically interesting astronomical objects.

Created information-dense visualizations of astrophysical models and data.

Developed numerical models of diverse astrophysical phenomena (mostly in Python) and wrote hierarchical Bayesian analysis code for challenging inference problems.

Optimized scientific software using profiling tools (e.g Python cProfile).

Published articles in top astronomy journals.

Hobby projects including time lapse videos, micro photography, and watching and photographing urban wildlife.

CURRENT POSITION

Zwicky Prize Postdoctoral Fellow
Institute for Astronomy, ETH Zürich (Swiss Federal Institute of Technology)
January 2010 - present