

Amanda Birmingham

Senior software developer and data analyst with >10 years' technical management experience

WORK EXPERIENCE

Center for Computational Biology and Bioinformatics, University of California, San Diego, CA

- Senior Bioinformatics Engineer (2015 – Present)
 - Instituted cloud-based, best-of-breed analysis pipeline for microbiome data
 - Contributed to [qiita](#) open-source microbiome resource

Dharmacon, part of GE Healthcare (previously Thermo Fisher Scientific), Lafayette, CO

- Highlights
 - Built bioinformatics team serving three corporate sites on two continents
 - Completed 100% of team goals for last 3 years, 94% in last 10
 - Successfully managed group through four corporate mergers, sales, and acquisitions
 - Presented talks at >20 conferences and seminar series in North America, Europe, and Asia
 - Nominated twice for company's highest award, the worldwide Customer Allegiance Star
- Bioinformatics Manager 2 (2011 – Present)
 - Managed >\$350,000 annual personnel budget, including setting salaries, raises, and bonuses
 - Headed 5-person team awarded 1-year, one million dollar internal Intensifying Innovation grant
 - Spearheaded collaboration between RNAi Global and National Center for Biotechnology Information to expand [BioAssay](#) database to include public RNAi data storage
 - Acted as sole industry representative to international [RNA Ontology Consortium](#)
 - Instituted quarterly reannotation of ~1.5 million products to meet longstanding customer need
 - Developed C# software to design new [Lincode](#) product line targeting non-coding RNAs
- Bioinformatics Manager (2006 – 2011)
 - Built team from one member to six full-time employees, including hiring and termination
 - Trained, supervised, evaluated and, as necessary, disciplined local and remote team members
 - Authored first-in-class open-source [NoiseMaker](#) software for screening simulations
 - Co-authored international data specifications as part of [MIARE](#) and [MIACA](#) standards teams
 - Led Informatics Working Group of 60+-institute [RNAi Global Initiative](#)
 - First-authored seminal RNAi high-throughput [data analysis guidelines](#) cited >200 times
 - Worked directly with largest customers to provide expert analysis services and support
 - Developed classifier algorithms for [ON-TARGETplus](#) and [SMARTvector](#) product line design
 - Instituted unit-testing, source branching, and peer code reviews to ensure software quality
- Bioinformatics Software Developer (2004 - 2006)
 - First-authored ground-breaking [computational biology research](#) cited >600 times
 - Developed core product design software using C#, VB.NET and ASP.NET in Visual Studio
 - Parallelized product design code and infrastructure, increasing performance by 400%
 - Performed extensive capture and curation of public data from NCBI, EMBL, and miRBase

Molecular, Cellular, and Developmental Biology Dept., University of Colorado, Boulder, CO

- Professional Research Assistant (2002 – 2004)
 - Co-developed [BayesFold](#), a Bayesian-statistics-based RNA structure prediction package
 - Contributed to [PyCogent](#) open-source software library for genomic biology
 - Wrote first-in-class software to automatically design primers for SELEX

Elity Systems, Inc., Somerset, NJ

- Highlights
 - Helped build real-time-marketing start-up successfully sold to Fidelity Investments
 - Received first annual Elity Value Award
- GUI Team Leader (2000 – 2001)
 - Headed User Interface team, directing six junior and senior developers
 - Hired, trained, and evaluated employees, and set performance improvement plans as needed
 - Planned projects end-to-end, including requirements gathering, scoping, and resource allocation
 - Worked with customers for requirements gathering, product installs, training, and tech support
- Senior Software Developer (2000)
 - Created web-based GUIs for advertising software product with HTML, ASP, VB, and XSLT
 - Designed and implemented schema of multiple sections of product's database in SQL Server
 - Wrote both internal and end-user product documentation
- Software Developer (1999 - 2000)
 - Created reporting programs in VBA, VB 6.0, ASP, and Perl

Astronomy Dept., University of Massachusetts, Amherst, MA

- Research Assistant (1998 - 1999)
 - Carried out data analyses in C and Perl to investigate modes of stellar formation

Internships

- Arecibo Observatory (Arecibo, PR; Summer 1997)
- Cornell University, Dept. of Astronomy (Ithaca, NY; Summer 1995)
- Amherst College, Dept. of Physics: Hughes Fellow (Amherst, MA; Summer 1994)
- NASA Lewis Research Center, Electrophysics Branch (Cleveland, OH; January 1993)

EDUCATION

- Colorado State University, Fort Collins, CO (2006) Department of Statistics
 - Statistics for Engineers and Scientists (grade: A+)
- University of Colorado, Boulder, CO (2003) Department of Computer Science
 - Graduate courses: Readings in Cognitive Science, User Interface Design (grades: A)
- Amherst College, Amherst, MA (1997): Triple B.A. in Physics, Astronomy, and English
 - Summa Cum Laude; GPA: A; Senior honors thesis with High Distinction in Astronomy
 - Awarded Phi Beta Kappa Society membership and Amherst College Porter Prize for Astronomy
- Olmsted Falls High School, Olmsted Falls, OH (1993)
 - Valedictorian, National Merit Finalist, recipient of state Robert Byrd Scholarship

COMPUTER SKILLS

Current experience with:

C#	Python	SQL	R	Bioconductor	Weka	Git
QIIME	HTML	CSS	Office	Linux	Macintosh	Windows

Previous experience with:

VB.NET/6.0	ASP.NET	Java	JavaScript	Perl	C/C++	FORTRAN
Photoshop	Illustrator	SVG	XSL/XSLT	XML	UML	MS Visio

References available upon request