

CONTACT INFORMATION

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PROFILE

- ⇒ Keenly motivated and well experienced in both professional and academic settings.
- ⇒ Highly versatile in developing under a diverse set of environments and languages.
- ⇒ Extensive classical and object-oriented analysis and design background.
- ⇒ Strong facilitation, presentation, communication, and organizational skills.

TECHNICAL INVENTORY

<i>Languages</i>	C++, C#, C, Java, UML, Perl, Python, Basic, Fortran, Pascal, SQL, Assembly, LaTeX, Mathematica, Matlab, IDL, Unix Shell
<i>Web Technologies</i>	Tomcat, JSP, Struts, JavaScript, XML, HTML, CSS, PHP, CGI, RPC
<i>Libraries</i>	OpenGL, Java Swing, MFC, LEDA, NCAR Graphics
<i>Environments</i>	Visual Studio, IntelliJ, Eclipse, NetBeans, Vim, Emacs
<i>Databases</i>	Oracle, Sybase, MySQL, Access
<i>Operating Systems</i>	Windows XP, Unix, Solaris, IRIX, AIX, Linux, Cygwin, OS X, DOS

PROFESSIONAL EXPERIENCE

- 2006–2008 **The University of Arizona**
Graduate Research Associate
 ⇒ Aided in the ongoing development of GraphSET, an interactive GUI tool for dynamically manipulating and analyzing simultaneous graph embeddings.
- 2007, 2008 **Google**
Software Engineering and Testing Intern
 ⇒ Created Java plugin for FitNesse, a web-based testing framework, 2007
 ⇒ Automated hierarchical graph layouts for internal application, 2008
- 2005 **National Oceanic and Atmospheric Administration (NOAA)**
Web Development Intern
 ⇒ Modernized natural hazards database web interface using JSP and Struts.
- 2000–2001 **CIBER/IBM**
Full-time Web Programmer
 ⇒ Updated and maintained internal administration web sites that monitored web and FTP traffic and produced network traffic reports for DB2 database.
- 1997-1999 **National Center of Atmospheric Research (NCAR)**
Full-time Software Engineer II
 ⇒ Designed, implemented, tested and maintained a data processing system that ingests raw satellite data using Perl to produce remote sensing data products.

INSTRUCTIONAL EXPERIENCE

The University of Arizona

C SC 445	Algorithms	Summer 2006
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University of Colorado at Denver

C SC 4034	Theoretical Foundations of Computer Science	Spring, Summer 2003, Spring 2004
C SC 4058	Introduction to Software Engineering	Fall 2003, 2004
C SC 5728	Software Engineering	Spring, Fall 2004

EDUCATION

- Present* **Pursuing Ph.D. in Computer Science** at the University of Arizona.
2002 **M.S. in Computer Science** at the University of Colorado at Denver.
1995 **B.S. in Engineering Physics** at the University of Colorado at Boulder.

AWARDS

- Department of Computer Science Outstanding Teaching Assistant for 2006–2007.
Department of Computer Science Exceptional Paper of 2007.
Galileo Circle Scholar 2008.

NOTABLE COURSEWORK

- Programming* Advanced C and C++; C# Business Programming; Advanced Java
AI AI-Based Decision Making; Neural Networks; Decision, Causality and Inference
Systems Advanced Operating Systems; Advanced Compilers
Applications Computer Graphics; Database Design; Data Compression; Computer Security
Algorithms Computational Geometry; Computational Biology; Remote Sensing Networks

NOTEWORTHY PROJECTS

- Graphics* Constructed a ray-tracer using C++ with OpenGL to do interactive animations.
OS Provided low-level implementation in C of log-based file system using Sun RPC.
Neural Nets Designed neural networks for pattern digit recognition in Mathematica.

SELECTED REFEREED CONFERENCE PUBLICATIONS

1. A. Estrella-Balderrama, J. J. Fowler, and S. G. Kobourov. “Graph Simultaneous Embedding Tool”. *16th Symposium on Graph Drawing (GD 2008)*. To appear 2009.
2. J. Joseph Fowler, and Stephen G. Kobourov. “Characterization of Unlabeled Level Planar Graphs”, *15th Symposium on Graph Drawing (GD 2007)*. LNCS 4875, pp. 37–49, 2008.
3. J. Joseph Fowler, and Stephen G. Kobourov. “Minimum Level Nonplanar Patterns for Trees”, *15th Symposium on Graph Drawing (GD 2007)*. LNCS 4875, pp. 69–75, 2008.
4. Alex Estrella-Balderrama, J. Joseph Fowler, and Stephen G. Kobourov. “Characterization of Unlabeled Level Planar Trees”, *14th Symposium on Graph Drawing (GD 2006)*. LNCS 4372, pp. 367–379, 2007.

JOURNAL PUBLICATIONS

1. A. Estrella-Balderrama, J. J. Fowler, and S. G. Kobourov. “Characterization of Unlabeled Level Planar Trees”, *Computational Geometry: Theory and Applications*. To appear 2009.
2. J. Cappos, A. Estrella-Balderrama, J. J. Fowler, and S. G. Kobourov. “Simultaneous Graph Embedding with Bends and Circular Arcs”. *Computational Geometry: Theory and Applications*. vol. 42, no. 2, pp 173–182, 2009.
3. Ellen Gethner, Doris Schattschneider, Steve Passiouras, and J. Joseph Fowler. “Combinatorial Enumeration of 2×2 Ribbon Patterns”, *European Journal of Combinatorics*. vol. 28, no. 4, pp. 1276–1311, 2007.
4. J. Joseph Fowler and Ellen Gethner. “Counting $m \times m$ Escher’s Ribbon Patterns”, *Journal for Geometry and Graphics*. vol. 10, no. 1, pp. 1–13, 2006.

AFFILIATIONS

- ACM Special Interest Group on Algorithms and Computation Theory (SIGACT).
American Mathematical Society (AMS).
Institute of Electrical and Electronics Engineers Computer Society (IEEE-CS).
SIAM Activity Group (SIAG) in Computational Science and Engineering.