

# BENJAMIN STEWART

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**OBJECTIVE:** Develop large scale, distributed systems for computer graphics, multimedia or content management applications.

**EDUCATION:**

10/01 - 03/04	M.S. in Computer Science	University of Washington
08/97 - 05/01	B.S. in Computer Science, <i>Summa cum Laude</i>	University of Maryland, College Park

**SKILLS:**

Programming Languages: Java (SE/EE), C/C++, SQL, Perl, HTML, JavaScript, C#, CSS, Powershell  
APIs: Java Servlets, Jakarta Struts, Velocity, SAX, DOM, JDBC, XSLT, JUnit, SOAP, OpenGL, Berkley/WINSOCK socket programming, WIN32 & COM, Pthreads  
Databases: Oracle 10g, mySQL, Cloudscape, SQL Server  
Software: Ant, Jakarta Tomcat, Apache HTTP Server, IIS, Adobe Photoshop/Premiere, Matlab, Macromedia Director/Flash, Aria/Saphira, Microsoft Visual Studio, Eclipse, CVS  
Operating Systems: LINUX/UNIX, Windows 95/98/2000/NT/XP/Vista, MSDOS

**PROJECTS:**

A portfolio of academic, research and personal projects can be found online at:  
<http://onenationunderagroove.net/portfolio/>

**EMPLOYMENT:**

11/05 – Present	Microsoft Software Development Engineer 2 Worked in Windows Fundamentals developing software related to diagnostics. Current efforts focused on helping end users to discover and execute Powershell based diagnostics to troubleshoot PC problems. Contributed C++ APIs for searching metadata related to diagnostics hosted by online Microsoft services as well as those built into Windows. Past efforts include building and publishing diagnostics using C# that were leveraged by Microsoft Support to automate problem detection during support calls.	Supervisor: Melur Raghuraman
03/04 – 11/05	Marchex, Inc. Software Engineer/Technical Lead Led team of developers in design and implementation of technologies related to Direct Navigation business. This included data modeling and web services for domain management, data warehousing of web/click traffic and dynamic content generation for 200,000+ domains. Worked with Enhance Interactive business to port Advertiser AMS from .NET to a MVC design using Jakarta Struts + Velocity. Integrated Auto-CPC functionality into proprietary PPC Engine.	Supervisor: Yang Lim
07/02 – 01/04	Computer Science and Engineering, University of Washington Research Assistant Conducted research for Centibots project. Project aim was for 100 robots to autonomously explore and map large indoor environments while performing surveillance and people tracking. Developed multi-threaded multi-robot system in C++. Built the structure of indoor environments using Bayesian statistical methods and machine learning. Adapted particle filters for localization and map merging.	Supervisor: Dieter Fox

- 10/01 – 06/02      Computer Science and Engineering, University of Washington  
Graduate Teaching Assistant      Supervisors: Ken Yasuhara, Hal Perkins  
Lead quiz sections, graded/wrote exams + homework assignments and tutored students during  
office hours for Intro Computer Science courses. Taught both C++ and Java.
- 06/00 – 08/00      Syscom Inc.  
Intern      Supervisor: Kevin Anderson  
Developed image file converter in C to convert files from/to IBM MO:DCA to/from TIFF.  
Designed/implemented a UPES interface to IBM MQSeries Client APIs that dynamically  
creates Java objects to process XML messages generated by MQSeries Workflow.

### **PUBLICATIONS:**

- *Extracting places from traces of locations* J.H. Kang, W. Welbourne, B. Stewart, G. Borriello. WMASH-2004
- *The Revisiting Problem in Robot Map Building: A Hierarchical Bayesian Approach* B. Stewart, J. Ko, D. Fox and K. Konolige. UAI-2003
- *A Practical, Decision-theoretic Approach to Multi-Robot Mapping and Exploration* J Ko, B. Stewart, D. Fox, K. Konolige and B. Limketkai. IROS-2003
- *Map Merging for Distributed Robot Navigation* K. Konolige, D. Fox, J. Ko, B. Limketkai and B. Stewart. IROS-2003
- *A Hierarchical Bayesian Approach to the Revisiting Problem in Mobile Robot Map Building* D. Fox, J. Ko, K. Konolige and B. Stewart. ISRR-2003
- *Distributed multi-robot mapping* D. Fox, J. Ko, B. Stewart, K. Konolige, and B. Limketkai. *Multi-Robot Systems: From Swarms to Intelligent Automata*, volume II. Kluwer, 2003.
- *CentiBOTS: Large-scale robot teams* K. Konolige, C. Ortiz, R. Vincent, A. Agno, M. Eriksen, B. Limketkai, M. Lewis, L. Briesemeister, E. Ruspini, D. Fox, J. Ko, B. Stewart, and L. Guibas. *Multi-Robot Systems: From Swarms to Intelligent Automata*, volume II. Kluwer, 2003

### **ASSOCIATIONS:**

DJ/Record Librarian at 88.1 FM WMUC, College Park, 1997-2001