

# Adam Goode

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## Experience

### Research Programmer, ACT-R Research Group

Carnegie Mellon University, Pittsburgh, PA  
<http://act-r.psy.cmu.edu/>

Aug 2001–Aug 2003

*python, act-r, raid, php, postgresql*

- While working on a master's degree, I scheduled, programmed, and ran experiments using functional MRI to examine the workings of the brain in light of the ACT-R cognitive framework.
- Maintained fMRI data analysis computing systems and programmed fMRI experiments, including modifying numerical analysis code and provisioning a large RAID to store fMRI data.
- Developed the ACT-R research group website.

### Research Programmer, Auton Lab

Carnegie Mellon University, Pittsburgh, PA  
<http://www.autonlab.org/>

Sep 2003–May 2006

*java, r, graphviz, rhino, machine-learning, xslt, c, perl*

- Converted existing C machine learning algorithms to work as shared libraries. These standalone applications lacked cleanup or error recovery mechanisms. Changing only common code, I added memory tracking and a cleanup infrastructure in a backward compatible way, to enable them to act as plugins for C and R.
- Built the Auton Lab website. Using the Daisy CMS to implement [autonlab.org](http://www.autonlab.org), I constructed server-side JavaScript (with Rhino), XSLT, and custom database tools to migrate an existing hand-crafted site.
- Implemented data mining and visualization tools for the SmartCube drug discovery project. Starting with Perl but moving to Java, I implemented bagged decision tree classification code for drug discovery and a spring model similarity visualizer. I also worked in C to implement decision tree learning, validation, and visualization.

### Web Designer

GASP, Pittsburgh, PA  
<http://gasp-pgh.org/>

May 2008–June 2008 (contract)

*wordpress, css, php*

- Migrated a website of hundreds of freeform HTML and PDF documents to WordPress (including a custom theme), with the goal of creating a sustainable system for future enhancements.
- Wrote scripts to assist with page migration.

### Contractor

Bossa Nova Robotics, Pittsburgh, PA  
<http://bnrobotics.com/>

June 2008–December 2008 (contract)

*bluetooth, java, swing, centos*

- Built a bluetooth terminal application in Java to communicate with a custom robotics development board.
- Administered company servers for backup, printing, DNS, SVN, and file sharing.

### Project Scientist, Satya Group

Carnegie Mellon University, Pittsburgh, PA  
<http://openslide.cs.cmu.edu/>  
<http://diamond.cs.cmu.edu/>

June 2006–present

*java, virtual-slides, glib, cairo, imagej, c, tiff*

- Designed and implemented OpenSlide[1], an open source C library and Java viewer for lazily decoding large (> 1 gigapixel) vendor specific virtual-slide formats used in digital pathology.
- Implemented search applications (adipocyte classification[2], anomaly detection[3], radiology, pathology) on the OpenDiamond platform[4]. Modernized and improved the OpenDiamond platform libraries. Rewrote the client side libraries and applications from C/C++ to Java.

## Education

- Rensselaer Polytechnic Institute** B.S. Computer Science / Psychology Aug 1997–May 2001  
GPA: 3.9/4.0 *computer-vision, artificial-intelligence, data-structures, c++*
- Carnegie Mellon University** Master of Human-Computer Interaction Aug 2001–Aug 2003  
QPA: 3.83/4.00 *robotics, user-study, contextual-inquiry, heuristic-evaluation*

## Projects and Links

- OpenSlide** Creator of OpenSlide, a library for reading many kinds of virtual slide images  
<http://openslide.cs.cmu.edu/>
- Fedora** Packager and contributor to the Fedora Project  
<https://admin.fedoraproject.org/pkgdb/users/packages/agoode>
- CMUcam** Co-inventor of CMUcam3, an open source, embedded programmable camera  
<http://cmucam.org/>
- MLton** Contributor (with commit access) to MLton, a whole-program compiler for Standard ML  
<http://mlton.org/>
- Escape** Dabbler in the puzzle game Escape  
<http://escape.spacebar.org/>
- my version for the Nintendo Entertainment System (in 6502 assembly)  
<http://github.com/agoode/escape-nes>  
<http://escape.spacebar.org/escape.nes>
  - a solver using A\* search and a PDF generator with high-quality SVG versions of the graphics  
<http://github.com/agoode/escape-java-apps>
  - a version for old mobile phones (MIDP 1.0) with 8x8 pixel tiles  
<http://github.com/agoode/escape-java>
  - an old preliminary JavaScript version  
<http://github.com/agoode/escape-js>

## Recent Technical Reports and Publications

- [1] A. Goode and M. Satyanarayanan, "A vendor-neutral library and viewer for whole-slide images," Tech. Rep. CMU-CS-08-136, Carnegie Mellon University, June 2008.
- [2] A. Goode, M. Chen, A. Tarachandani, L. Mummert, R. Sukthankar, C. Helfrich, A. Stefanni, L. Fix, J. Saltzman, and M. Satyanarayanan, "Interactive search of adipocytes in large collections of digital cellular images," in *2007 IEEE International Conference on Multimedia and Expo*, pp. 695–698, IEEE, July 2007.
- [3] A. Goode, R. Sukthankar, L. Mummert, M. Chen, J. Saltzman, D. Ross, S. Szymanski, A. Tarachandani, and M. Satyanarayanan, "Distributed online anomaly detection in high-content screening," in *5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro, 2008. ISBI 2008.*, pp. 249–252, IEEE, May 2008.
- [4] M. Satyanarayanan, R. Sukthankar, A. Goode, L. Huston, L. Mummert, A. Wolbach, J. Harkes, R. Gass, and S. Schlosser, "The OpenDiamond® platform for discard-based search," Tech. Rep. CMU-CS-08-132, Carnegie Mellon University, May 2008.