

# Ethan Gold

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## Summary

A systems, network, and instrumentation oriented software architect and systems engineer with real-world, operational, proof-of-concept, and research and development experience. Two decades of experience in heterogeneous systems integration for research, scientific operations, and business. The ability to work in several areas simultaneously, or focus intensely on a single project. Excellent writing skills, and experience instructing students in the classroom and users in real-world operations. Veteran of 40+ oceanographic cruises on three vessels.

## Education

Columbia University, New York, NY: MS Computer Science, 2001  
Vassar College, Poughkeepsie, NY: BA Computer Science, 1997,  
departmental honors, Math Correlate

## Skills

System analysis, architecture, and design  
Identity Management  
Technical team leadership  
New hire and intern mentoring  
Object Oriented modeling and design  
Software development  
Scrum Master Certified, December 2012  
Languages: Perl, Java, C (Sun RPC, BSD sockets, OpenGL), bash, Python, C++,  
Tcl/Tk, Pascal, Common LISP, SGML, PHP, csh  
Operating Systems & Platforms: Linux, SunOS, Solaris, MacOS, Eclipse,  
NetBSD, AIX, DOS/Windows 9x, Windows XP,7,10  
Data logging and processing systems development and operation  
Network, Web server (Apache, NES), and UNIX system administration and  
maintenance (Linux, Solaris, SunOS, MacOS)  
Full-stack systems implementation from crimping cables to application  
development

## Experience

*Crosstown Logic LLC, Proprietor*  
*March 2019 - Present*

Independent systems, software, and scientific field operations consulting.

*Ocean Exploration Trust, Director of Software and Data Engineering  
March 2013 - February 2019*

Systems, Network, Software, Services, and Data engineering in support of the E/V Nautilus's exploration mission.

- \* Operational support of entire shipboard network, data aggregation, backup, delivery, including hydrographic survey, ROV operations, and satellite communications
- \* Responsible for federal PARR compliance for NOAA-funded work
- \* Operational support of off-ship science communications
- \* Infrastructure design and implementation
- \* Repository and metadata design for national repository compatibility
- \* Designed and implemented reliable class-leading oceanographic data product delivery
- \* IT technical strategy
- \* Development and maintenance of mission-specific software
- \* Departmental budgeting and staffing
- \* Departmental personnel supervision
- \* COTS technologies include: Linux, MacOS, Windows, PERL, Python, C++, Java, XML, LDAP, Kerberos, NFS, Samba, SeaTel, Kongsberg SIS, Google domain administration

*Morgan Stanley, Vice President & Development Lead, Identity Management  
Development Team  
October 2004 - March 2013*

Identity Management

The Identity Management team is responsible for enforcing technology provisioning and de-provisioning for internal people throughout all major employment status events.

Activities include:

- \* Leading a team of five identity management developers
- \* Architecture, Design, development, and rollout of an integrated identity management suite based on Sun's Identity Manager software platform
- \* Build integration, including coordination, source code management, deployment, and rollback
- \* Third tier engineering support
- \* Analysis and design of business life-cycle processes
- \* Implementation and stewardship of automated provisioning and de-provisioning lifecycle workflows
- \* Design and implementation of entitlement integration
- \* Development for integration of Sun components with local systems

Directory Engineering group

The Directory Engineering group is responsible for building and maintaining the tools and infrastructure that distribute internal people data to the firm's internal applications.

Activities included:

- \* Develop and maintain the firm-wide LDAP directory infrastructure

- including related API's and web-based user applications on a small team.
- \* Infrastructure maintenance and upgrades, vendor patch QA for SunOneDS v.5.x
  - \* New tool development
  - \* Maintenance of multi-sourcing data flow rules for the meta directory using Critical Path's Join Engine
  - \* Designed and implemented a lightweight firm-wide role/rule-based entitlement engine for fine-grained LDAP-based entitlements
  - \* Developed a customized-per-user interface front-end for directory self-service based on the above rules engine with 60,000 users, individual and administrative

*Neuropsychological Assessment Platform (NPAP), Technical Director  
Consulting, March 2007-February 2008*

- \* Directing the development with a small team of developers of a prototype computerized modular neuropsychological testing platform which will produce widely available normative data and individual patient assessments.

*HCH Enterprises, Technical Project Management Proposal Consultant  
Consulting, July 2005 - January 2006*

- \* Research and write technical proposals for online small business development. Work includes client requirements discovery, technical needs analysis, writing RFP's for sub-project outsourcing bids.

*Columbia University, Senior Systems Programmer/Sysadmin for R/V Maurice Ewing, Office of Marine Affairs  
July 2001 - September 2004*

The R/V Maurice Ewing was the research vessel operated by the Lamont-Doherty Earth Observatory of Columbia University from 1988 to 2005. The ship had a world-wide survey range and operated around the world on scientific expeditions in several fields, including geophysics, physical oceanography, and marine biology. The ship operated roughly 11 months per year, with science staff working on a shore/sea rotation schedule of roughly 3 months at sea followed by three months in the office.

Activities and responsibilities included:

- \* Maintained and further developed legacy in-house shipboard data acquisition software system.
- \* Re-architected and implemented reliable, redundant, ship-to-shore satellite data communications system
- \* Responsible for support of multichannel seismic data acquisition system, multibeam sonar, magnetics, gravimetry, bridge and science navigation systems, display systems, shipboard network and all off-ship data

communications

- \* Operated shipboard computer systems for scientific data acquisition and subsequent analysis.
- \* Performed required crew and scientist technical support and training
- \* Performed initial build of on-board Beowulf Linux cluster.
- \* Participated in new autonomous instrument design and early development
- \* Redesigned and rewrote the core of the Ewing logging system for portability in a multi-platform/vessel environment aboard the USCG ice breaker Healy.

*Freelance system development  
March 22 - June 10, 2001*

- \* Built the vision back-end for Mark Napier's Point-to-Point web art installation commissioned by the Whitney Museum, NYC for the 2001 Data Dynamics exhibit

*Columbia University Computer Science Department, Robotics Group , TA & GRA  
Spring 1999 - Spring 2001*

- \* Graduate Research Assistant, and Teaching Assistant under Professor Peter Allen working on the AVENUE mobile robotics platform.
- \* Implemented two generations of user interfaces for mobile robot control, MSc thesis (Java, Java3D, CORBA)
- \* Implemented miscellaneous utilities, networking systems, including hardware and software maintenance
- \* TA for 3D photography, User Interface Design

*URLjam Media, Technical Coordinator  
January 2000 to December 2000*

URLjam Media was a small online teen media company. The company closed in December, 2000 and some of its properties were acquired by Nickelodeon.

Activities and responsibilities included:

- \* Managed and implemented website backend (Solaris, Linux, Netscape Enterprise Server and Apache administration)
- \* Implemented Perl/CGI, link/gallery management, ad delivery, polling, automated feed processing

*Freelance web programmer, UNIX/Web server admin  
October 1999 to December 1999*

- \* Web application developer using perl/CGI, PHP, SSI, SGML and Unix web server administrator

*Columbia University Computer Science Department , TA  
Fall 1998*

- \* Teaching Assistant for Steve Feiner's User Interface Design course: "Introduction to the theory and practice of computer user interface design"
- \* Presented material, graded homework, assisted students, implemented an electronic homework submission system.

*Los Alamos National Laboratory , Graduate Research Assistant software engineer  
June 1997 to August 1998*

- \* Graduate Research Assistant in the Nonproliferation and International Security group for adaptive multisensor facility security research
- \* Worked with various sensors, visualization, data fusion, C, C++, Tcl/Tk, Java.
- \* Designed and implemented an extensible 2D data visualization system for live networked sensors integrating a variety of sensor types.
- \* Co-conducted research into live network data fusion from multiple sensors, sensor types.
- \* Participated in design, debugging, and installation of network reporting systems for the security system sensor suite.
- \* Implemented live networked data and object distribution backend for production visualization.

*International Business Machines EDA Dept. E. Fishkill, NY, Intern  
Summer 1996*

- \* Summer intern programming and bug testing GUI and backend components for Electrical CAD Methodology Enforcement Software using csh, ksh, and C++
- \* Developed a ksh-based regression testing system for command line data organization tools with HTML report generation.

## **Publications**

### **Papers**

Gueorguiev, Allen, Gold, Blaer: *Design, Architecture and Control of a Mobile Site-Modeling Robot* (ICRA2000)

Allen, Stamos, Gueorguiev, Gold, Blaer: *AVENUE: Automated Site Modeling in Urban Environments* (3DIM2001)

### **Media Support and Appearances**

Nautilus Live (2013+)  
<http://Nautiluslive.org/>

National Geographic: Caribbean's Deadly Underworld (2014)  
<http://www.imdb.com/title/tt4358226/>

Nova: Nazi Attack on America (2015)  
<http://www.imdb.com/title/tt4469568/>

### **Oceanography Society Supplement Publication Support**

<http://tos.org/oceanography/issue/volume-27-issue-01-supplement>

<http://tos.org/oceanography/issue/volume-28-issue-01-supplement>

<http://tos.org/oceanography/issue/volume-29-issue-01-supplement>

<http://tos.org/oceanography/issue/volume-30-issue-01-supplement>

<http://tos.org/oceanography/issue/volume-31-issue-01-supplement>