

HAROLD NICHOLAS NAGEL

Information Systems Engineer

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OBJECTIVE

To obtain a position where I can best utilize my extensive education and skill set in the fields of Human and Computerized Information Processing.

QUALIFICATIONS

- Ph.D. in cognitive science.
- Model Object Oriented Programming capabilities shaped and honed through years of training and information systems engineering.
- Seasoned expertise acquired through years of total immersion in Internet and World Wide Web development.
- Strong scientific background with extensive formal training in cognitive science and computational systems.
- Expert analytic and quantitative abilities.
- Exceptional communicative abilities and capacity for public speaking.
- Advanced writing capabilities evidenced through numerous technical publications, grant proposals, course materials development, and blogs.
- Advanced drawing and graphics design skills acquired through formal education and continuing artistic productions.
- Craftsperson's attention to detail strongly supports both back- and front-end development.
- Robust feature implementation through application of principles of Test Driven Development (TDD).

PROFESSIONAL EXPERIENCE

- Software Engineer (contractor), Charles River Analytics (March 2012 -- April 2013).
 - Contributed to the development of a US Air Force pilot training simulation (using C++, OpenGL, and additional technologies). Implemented features related to graphics, game-based training, and system artificial intelligence.
 - Developed an-object oriented HTML5 framework for microgame authoring including an animation framework, asset management, and AI aspects (sprite behavior).
 - Created microgame configuration system in java~flex (using BlazeDS front end) with SQL (via JDBC).

- Developed geospatial data import/export towards integration of Java desktop systems and mobile devices in an Emergency Response control system.
 - Integrated Java-based UI visualization using NASA WorldWind with an unmanned vehicle planning system for unmanned vehicle administration training.
- Software Architect, Pegasystems (November 2010 -- January 2012).
 - Participated in the development and maintenance of enterprise web-applications supporting marketing and human resources departments.
 - Developed and implemented UI/Ux standards improving consistency and usability across applications.
 - Developed a Content Management System interface (for Alfresco) with client-server interactions via RESTful Web services
- Senior Software Engineer, Immersive Education Initiative (2008 -- 2010).
 - Pioneered on-line development and teaching in Internet-based virtual worlds environments.
 - Single handedly created Collada-->OGRE 3D graphics transcoder ~~ a C++ application enabling platform-independent representation of 3D learning assets.
 - Developed 3D virtual worlds "Collaborative On-line Learning Environments" (COLE's)
 - Developed UI components (library browser) on Sun Microsystems Wonderland platform (a java-based system).
 - Developed techniques enabling the projection of emotion in 3D avatars
 - Collaborated in virtual-worlds research and development at U-Aizu, Japan
 - Contributed to Drupal website and back-end MySQL database for asset management
 - Conducted several International Events to promote and educate the public about Immersive Education
- Lecturer (part-time), Boston College (2003 -- 2010).
 - Developed and taught the course, "Exploring Internet Development".
 - Produced a "Web-based workbook" ~~ an online set of materials and resources supporting on-site and distance learning.
- Software Engineer (contractor), Harvard Business School Publishing (2007 -- 2008).
 - Developed XML/XSLT driven system for the presentation of Harvard Business Review (HBR) assets creating a workflow for product creation.
 - Integrated HBR assets with Learning Management systems.
 - Developed flash UI components and integrated flash video presentations.
- Educational Systems Specialist, Altova (2004 -- 2007).
 - Developed both content ~and~ infrastructure for live, web-based presentation of educational materials related to XML development reaching thousands world-wide.

- Created an XML/XSLT driven system enabling independent content development for web-based presentation.
 - Developed MS SQL database and sql queries handling session enrollments for thousands of customers world-wide.
 - Delivered live web-based education supporting data modeling with XML-Schema, XSLT development, and XML-RDBMS data mapping.
- Java Instructor, Sun Microsystems (2000 ~ 2004).
 - Developed and delivered instructional materials on Object Oriented development.
 - Delivered courses in enterprise related technologies including; core Java, JDBC, J2EE, XML, and Web-services.
- Visiting Professor, Boston College (1998 -- 2000).
 - Taught courses in statistics, neural network modeling and cognitive science.
 - Conducted research in human sentence processing.
- Research Fellow, Boston University School of Medicine and Harold Goodglass Aphasia Research Center (1997 -- 1998).
 - Designed and conducted sentence-processing research in aphasic populations.
 - Conducted research involving signal processing and analysis of the human speech signal
- Post-Doctoral Fellow, Harvard Medical School and Massachusetts General Hospital (1995 -- 1996).
 - Conducted research in natural language processing in normal and neurologically impaired populations.
- Post-Doctoral Fellow, University of California, San Diego -- Center for Human Information Processing (1994 -- 1995).
 - Conducted research in human sentence processing contributing to further understanding of the development of computational systems for natural language processing and speech recognition.

AREAS OF EXPERTISE

- Internet and World Wide Web development
- Object Oriented Programming
- 2D and 3D graphics and animation
- 3D virtual environments (virtual worlds)
- On-line educational systems
- XML processing and data modeling
- Scientific research methods and data analysis
- Languages and linguistics
- Speech signal processing and analysis
- Artificial intelligence and simulation behavior
- Technical and educational authoring
- Drawing and design

TECHNOLOGIES

Languages	OS, Frameworks, API's and Databases	Tools and Miscellaneous Software
<ul style="list-style-type: none">• Java• C++• XML/XSD/XSLT• ActionScript (Flash)• Javascript• HTML5• CSS• SVG• SQL• PHP• Python	<ul style="list-style-type: none">• Windows• unix (Solaris)• Java SE• OpenGL• Android (devices)• OGRE (3D graphics)• Collada (an XML 3D format)• Web Services (SOAP/WSDL)• J2EE• Learning/Content Management Systems• MySQL• Oracle• MSSQL• DB-2	<ul style="list-style-type: none">• Eclipse• QT Creator• WebStorm• Microsoft Visual Studio• Inkscape (SVG)• Adobe Flash• Adobe Photoshop• Anime Studio• Alias Maya (3D Development)• Altova XML Spy (XML data modeling)• Microsoft Office• CVS• SVN

EDUCATION

- **Ph.D.** (cognitive science). Florida Atlantic University, Boca Raton, FL (1994). Dissertation: *The Role of Prosody in Sentence Processing*.
- **B.A.** (psychology). University of Massachusetts, Lowell, MA (1989).