

Douglas W. Raymond

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douglas.w.raymond@gmail.com**Cross-disciplinary creative and analytical services**

Electronic and software systems

Evolutionary Psychology

Diverse experience and knowledge

Computer driven automation and imaging projects for molecular biology research

Automatic test and optical inspection for circuit assembly applications

Hands on design, simulate, lay out boards, create firmware, debug prototypes

Creative – 18 patents to date

Current: variety of projects in art, music, Evolutionary Psychology and solar energy

July –Sept 2008 Osher Lifelong Learning Institute at University of California, Berkeley – leader of Interest Circle for Evolutionary Psychology.

Sept 2007- 2008: Attempt to license a patent application in solar energy monitoring

Nov. 2003-Sept. 2007: Sr. Staff Engineer, Siemens Medical Solutions, Concord CA

Develop electronic subsystems for therapeutic linear accelerators. Instrumentation for x-ray and electron dosimetry. Servo control of dose rate and beam steering. Studies of semiconductor aging under radiation led to a patent application. Laser scanner for collision avoidance. FDA regulated work environment.

Jan. 2003-June 2003: Chief Engineer, VSOM, Inc. Berkeley CA

Develop automated optical microscopy invention licensed from LBNL. Device measures presence of multi-drug-resistance pumps in nuclear membranes of cultured tumor cells. Servo controls, user interface, extraction of signals from fluorescence scope images. Created trade show presentations and posters.

Feb. 2002-Dec. 2002: Scientific Programmer, Ehud Isacoff Lab, UC Berkeley Mol-Bio dept.

Automated experiment control of fluorescence microscope servos and electrophysiology stimulators.

Extensive GUI and extraction of molecular signals from images. Ca⁺⁺ project used 2-color FRET images. K⁺ channel project used fluorophore-tagged voltage gated K⁺ channels grown in xenopus oocytes, viewed with TIR scope. Derived compensating functions for dye aging and cell firing. My work was cited in their publication.

Jan. 2002 – Nov. 2002 – Volunteer programmer, California Alumni Association, Berkeley CA

Created database tools for managing college gifts and invitations to ceremonies. These tools provided easy data entry for clerks, and generated several kinds of automated letters. MS Office automation interface, controlled from Access VBA.

Sept. 1996-Dec. 2001 – "Innovative Engineer," Teradyne Inc. Walnut Creek CA

In charge of engineering team for automated optical inspection ("AOI") product line. Intake of an acquired company and perfecting of the acquired product. Architecture, project sale and initial development of successor Teradyne product. Designed and wrote software for concept proof, statistical quality reporting, and for simulating and identifying root causes of problems.

Aug. 1987-Sept. 1996 – Special Projects Engineer, Zehntel/Teradyne Inc. Walnut Creek CA

Architect and development project leader for the very successful Z1800 automatic test equipment line. Z1800 led to the acquisition of Zehntel by Teradyne, and generated 3/4 billion in revenue from 40 countries. Created award-winning midlife kicker accessories, including a family of embedded plug-ins for installing code into nonvolatile memories during circuit board test. Published numerous papers and articles, and made presentations at trade and technical conferences.

Constant reader, fast learner, rapidly productive in new situations.

Life Senior Member, Institute of Electrical and Electronic Engineers

BS, MS in Control Systems Engineering, UC Berkeley College of Engineering

Peace Corps Volunteer, Ethiopia

Juried artist, guitarist, chorister and OLLI group facilitator