

Miriam Heller, Ph.D.

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Nascent Full-Stack Web Developer with proven knack for picking up new technologies seeks position exercising and extending newly acquired full-stack web development skills through team-based, hands-on learning. Future interest in leveraging domain knowledge in backend solutions and learning related cloud-computing technologies.

Value-Added Knowledge and Capabilities

- Languages, etc.: JavaScript, Python, Java, MATLAB, C, HTML/CSS, SQL, MERN stack, mLab, TravisCI, Heroku.
- Knowledge acquisition, software development/testing
- Machine/reinforcement learning; knowledge-based AI; simulation and optimization theory and practice
- Program and project management
- Data sourcing, modeling, management
- Vulnerability, risk, economic, decision and life-cycle analysis; full cost accounting, sustainability metrics
- Continuous and discrete manufacturing systems
- Water, transportation, energy infrastructures
- French: advanced professional proficiency

Selected Professional Experience

Entrepreneurship Consulting at MHITech Systems

- Designed, coded and demonstrated real-time sustainability metrics for DOE/AICHE Smart Manufacturing testbeds.
- Defined new standards-based accurate, embedded virtual training assessment with Naval Post-Graduate School.
- Analyzed and published workshop/survey data as co-PI for NSF-funded Sustainable Engineering Education project.

Innovation Applying AI and other Models to Financial, Environmental and Civil Infrastructures in Academia & Industry

- Generated seminal semiconductor manufacture life-cycle material, energy, water analysis as Fulbright Scholar.
- Built systems dynamics model to reduce sewer overflows as University of Houston Industrial Engineering Professor.
- Devised first: cascade NN to forecast water demand; expert water treatment design & costing systems as Professor.
- Created Citibank's Fraud Early Warning System (\$30 M/year loss) precursor to today's identity theft systems.

Leadership in Computer Science and Programming Communities

- Directed NSF \$22.5 M program to translate cyberinfrastructure into training, educational and mentoring tools.
- Engage women in IT as Python Lead in Women Who Code DC with monthly lectures and participant analytics.

Education and Training

1986 Ph.D., Environmental Engineering and Systems Analysis, Johns Hopkins University, Baltimore, MD.

Thesis: *Location Optimization and Simulation for the Analysis of Emergency Medical Services*

1978 B.S. Biology and Geology (minor in mathematics), University of Rochester, Rochester, New York

Post-Doctoral Studies and Certifications as a Life-Long Learner

2018 Thinkful, Full-Stack Development Bootcamp, On-Line, Student

2015+ Georgia Institute of Technology, Online Masters in Computer Science - Machine Learning, Student (on hold)

2016 World Bank Group Course: From Climate Science to Action, Certification License 9S2FK7BNZZ67

2012 Online Course Statement of Accomplishment, Machine Learning, Stanford University, Dr. Andrew Ng

2011 Sandia National Lab/SAMSI Summer School on Uncertainty Quantification, Albuquerque, NM

2005 Project Management Associate Certificate (PMI), George Washington University, DC

1989 Knowledge Engineering Certificate, Digital Equipment Corporation, Marlboro, MA

1987 Postdoctoral Studies, Institut de Statistiques de Paris, Université Pierre et Marie Curie, Paris VI, France

Honors and Awards

2013 Distinguished Visiting Scholar, mediaX, Stanford University

2006 National Science Foundation Director's Award: Integrated Activities, Cyberinfrastructure Strategic Planning

2005 National Science Foundation Director's Award in Integrated Programs, Human & Social Dynamics

2002 National Academy of Engineering, 7th Annual Frontiers in Engineering Symposium, named 1 of 16 speakers and 1 of 4 selected to publish Civil Infrastructure System Interdependencies paper in *The Bridge*

2000 US Fulbright Senior Scholar, France: yielded seminal paper on semiconductor life-cycle analysis

1998 Lyndon B. Johnson Space Center, NASA, Group Achievement Award, Lunar-Mars Life Support Team

1996 Artificial Neural Networks in Engineering, Best Engineering Application Paper Nominee

1983 AAAS US Congressional Science & Engineering Fellow, U.S. Congress Office of Technology Assessment