Cyrus Vafadari

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EXPERIENCE

Sookbox, LLC 2011 - 2014
CTO *Cambridge, MA*

- Raised $1.2M to develop a home media streaming and playback solution
- Designed and wrote back-end in Python (rewritten from PHP)
- Designed platform for multi-node architectures, remote message calling, and data marshalling
- Designed and implemented cross-platform, medium-agnostic messaging protocol capable of multi-casting
- Recruited and managed team of 5 engineers, worked with CEO to engage firms in strategic partnerships

Compact Muon Solenoid, LHC, CERN 2010
Research Scientist *Geneva, Switzerland*

- Observation of Long-Range, Near-Side Angular Correlations in Proton-Proton Collisions at the LHC
- Predicting probability of piled-up vertices as a function of multiplicity in proton-proton collisions
- Analyzed over a billion collisions and Monte Carlo simulations in a C++ framework
- Used Condor for grid computing
- Discovered evidence of quark-gluon plasma in high-multiplicity p-p collisions, never before observed
- Project publication: doi:10.1007/JHEP09(2010)091s

Dept. Molecular Biology, Mass. General Hospital 2009-2013
Research Scientist *Boston, MA*

- Third author: "Radiation Resistance of Biological Reagents for In Situ Life Detection"
- SETG, MIT/Harvard group designing and constructing a life-detection device to work on Mars
- Designed and executed experiments simulating cosmic radiation on a flight to Mars
- Irradiated over $40,000 of reagents with over 10 Gy of radiation from 5 different types of radiation
- Project publication: 10.1089/ast.2012.0869

PATENTS

Pending Filed January 2014
Co-Inventor

- Method and System for Providing Digital Content. US PCT/US2014/010243.
- Digital Content Connectivity and Control via a Plurality of Controllers ... US 14/147,397.
- Digital Content Connectivity and Control ... Discriminatively. US 14/149,541.
- Configuring, Networking, and Controlling a Plurality of Unique Network-Capable Devices. US 14/149,726.

EDUCATION

MIT *2012*
B.S. Nuclear Science and Engineering, 4.6/5.0

Monte Carlo Methods for Parallel Processing of Diffusion Equations 2012 - 2013
Thesis *Cambridge, MA*

- Modelled neutron flux in reactors as systems of differential equations approximated by linear systems
- Used a message passing interface in C to parallelize a Monte Carlo method to calculate solution vectors
- Dynamically determined the number of random walks necessary to decrease runtime while ensuring a given confidence