Joshua Mandel <jmandel@alum.mit.edu>

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Education

Tufts University School of Medicine 2006 – 2010, Boston, MA.

Doctor of Medicine. During surgery clerkship, built automated reporting software for medical students, liberating data from legacy EHR system. Courses include Anatomy, Physiology, Medicine, Surgery, Radiology, Pathology.

Massachusetts Institute of Technology 2001 – 2005, Cambridge, MA

Bachelor's Degree in Computer Science and Electrical Engineering. Courses include Artificial Intelligence, Algorithms, Microcontroller Project Laboratory, Computational Neuroscience, Quantitative Physiology, Genetics in Medicine, Biochemistry, Biotechnology and Engineering. Served as President and Treasurer of MIT French House.

- Cumulative GPA 4.9/5.0
- In-major GPA 5.0/5.0

The Hotchkiss School 1998 – 2001, Lakeville, CT

Rank: 1/166. Awarded prizes in English, French, History, Mathematics and Science. Performed in Shakespearean theater. Leader of campus Hillel. Taught computer skills to elderly.

Experience

Boston Children's Hospital / Harvard Medical School June 2010 – Present, Boston, MA

Research Scientist, Harvard Medical School Department of Biomedical Informatics
Faculty, Boston Children's Hospital Computational Health Informatics Program
Instructor of Pediatrics, Harvard Medical School
Lead architect for SMART Health IT, intially funded by a 4-year, $15M award from the Office of the National Coordinator for Health IT. Led SMART's core development team to produce the SMART API for health data across electronic medical records, personal health records, and data-mining platforms. Published open reference software and end-user clinical applications. Led technology for the NIH-funded Sync for Science project, working with seven national Electronic Health Record vendors to support data sharing for research. Collaborated with hospitals, vendors, integrators, and app developers to promote adoption of open, standards-based health APIs. Core team member for the HL7 International FHIR standard (Fast Healthcare Interoperability Resources). Voting member of the National Health Information Technology Standards Committee and co-chair of the HITSC's API Task Force.

Codon Devices July 2005 – July 2006, Summer 2007 Cambridge, MA

Engineer. Collaborated to develop factory production environment for DNA synthesis of hundreds of genes per month. Co-designed laboratory information management system and automation platform using liquid-handling robots to support DNA production. Supported development of novel DNA synthesis protocols and automated analysis of DNA sequencing data.

George Church Laboratory, Harvard Medical School Summer 2004, Cambridge, MA

Undergraduate Researcher. Developed and tested techniques to process data from gene array experiments in mice. Used machine learning tools to classify large sets of data and identify interesting biological patterns.

MIT Library Access to Music Project 2001 – 2015, Cambridge, MA

Co-founder. Co-designed and implemented world's first on-demand campus cable TV music service, providing students with free access to licensed broadcasts of popular and classical music. Collaborated to build cable television broadcast system capable of controlling and serving 16 channels of audio and video to MIT community of 10,000. Featured in New York Times, USA Today, Associated Press, NPR.

LifeHarbor Investment Summer 2003, Cambridge, MA

Product Development Intern. As member of four-person team, built and tested new Fixed Income module for Portfolio Management software. Speeded software development by designing and teaching teammates to use new user-interface description language.

MIT Artificial Intelligence Laboratory Summer 2002, Cambridge, MA

Undergraduate Researcher. Wrote application that enables specification and manipulation of joint angles in 3D human figure drawings. Implemented published algorithm to detect and identify human skin in digital images.

Technical Skills

Strong experience building tools across the Web stack including RESTful API design, HTML5, JavaScript, OAuth.
Programming experience in JavaScript/Node.js, Python, Java, C, C++, C#, MATALB, Perl, Scheme.
Database design and management (relational: Postgres, MySQL, Oracle. nonrelational: MongoDB, openrdf-sesame)
Proficient with Windows, Mac OS, UNIX/Linux.

Additional Interests

Baking, collecting fountain pens, travel, reciting and writing poetry. Fluent in French.