Eric Wadkins

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Education

Massachusetts Institute of Technology (MIT) – GPA: 4.6 — **Cambridge, MA**
Candidate for Bachelor of Science in Computer Science and Engineering — June 2018

Skills

Programming: Java, C++, JavaScript, Node.js, Python HTML, CSS, MATLAB, Arduino, Android, GLSL
Libraries/Other: TensorFlow, OpenCV, OpenGL, MongoDB, ANTLR, jQuery, Durandal, Bootstrap, REST, SOAP, XML, Express, Linux, Git

- Researching, designing, and experimenting with neural network models and AI systems.
- Designing, implementing, and testing general applications, web applications, and libraries, as well as conducting the research required to do so.

Experience

Quantum Photonics Lab, Research Laboratory of Electronics (RLE) — **Cambridge, MA**
MITRE Undergraduate Research and Innovation Scholar — Feb. 2017 - Present
Currently, I'm leading a year-long research project, sponsored by MITRE, aimed at improving instrument localization using Bayesian inference. This builds upon my previous work for the Quantum Photonics Laboratory, which includes developing machine learning and computer vision-enabled algorithms to automate processes in the lab, such as detection and examination of auxiliary information near nitrogen-vacancy centers in diamond.

Google — **Los Angeles, CA**
Software Engineering Intern — Summer 2017
As an intern at Google's Venice office, my work included the design, implementation, testing, and optimization of an intelligent automated tool for YouTube's internal infrastructure.

Computer Science and Artificial Intelligence Laboratory (CSAIL) — **Cambridge, MA**
Undergraduate Researcher — Sept. - Dec. 2016
The InfoLab Group conducts research on AI, computer vision, natural language processing, and multimedia information access. My research included a system to determine homographic scenes based on physical properties of objects, and the ability to query these scenes using natural language.

Diameter Health — **Newton, MA**
Software Engineering Intern (2+ years, summers + semester work) — Jun. 2015 – Feb. 2017
Designed and developed full-stack applications using proprietary algorithms to analyze and reveal insights in data useful for healthcare organizations and clinicians. I was heavily involved in the design, implementation, and testing of software, as well as the tailoring of applications to individual clients.

- Designed, implemented, and tested an advanced free-text medication sig parser which uses natural language processing techniques such as tokenization and POS tagging.
- Developed a full-stack application for Partners Healthcare as part of a research study, funded by the NIH, to determine whether automated predictive tools improve a clinician's ability to assess the risk of Chronic Kidney Disease in patients with early kidney disease.
- Created many other tools and applications to analyze healthcare data, as well as automate services for clinicians and hospital administrators.

Papers

Computer Vision Tools for Location Nitrogen-Vacancy Centers
Eric Wadkins, Michael Walsh, Dirk Englund – Short link: http://ericwadkins.com/p/1

Projects

Request, *Java Library* – Used for sending HTTP/HTTPS requests with data management functions
OpenGL Game Engine, *C++/OpenGL Project* – A custom OpenGL game engine created in C++.
Ray Casting Simulation, *C++/OpenCV Project* – An AI capable of ray casting, spatial mapping, Bayesian filtering, and pathfinding.
Compiler, *Java Project* – A compiler/transpiler for my own C-based scripting language.

***To learn more about me, my papers, and my other projects, visit*: http://ericwadkins.com**

Activities

HackMIT, MIT BattleCode Competition, MIT First Generation Program