

Kyle Morgan King

Website: <http://kyleking.me>

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EDUCATION

University of Maryland, College Park, MD

Bachelor of Science, Bioengineering

GPA: 3.81 / 4.00

Expected May 2016

Gemstone Honors Program: Full Stack Developer and Team Liaison

Expected Citation May 2016

- Self taught the Meteor framework to rapidly prototype an interactive web application: <https://redbarbikes.com>
- Collaborated with electrical engineering team to develop a distributed bike system using IoT technology
- Integrated contact sensors; microcontroller; Xbee and RFID modules; and a battery into novel bike lock design
- Addressed multidisciplinary concerns for security, usability, energy usage, and sensor consolidation in lock design
- Conducted user interviews to understand an ideal user experience, define features, and refine our value proposition

Startup Shell

Jan 2014 - Present

- Assembled 3D printed pill dispenser model to address the issue of low medication adherence

QUEST Honors Program

Jan 2013 - Dec 2014

- Presented a Meteor web application for secure doctor and patient communication at the Fall Showcase
- Applied design thinking to create a USB laptop security device and food inventory application for groceries

TECHNICAL EXPERIENCE

Maryland MEMS and Microfluidics Lab: Undergraduate Research Fellow

Jan 2014 - Present

- Pioneered optical technique to improve microfluidic immunoassays for antibody-based diagnostic applications
- Designed thermoplastic droplet generator to produce 30-40 μm diameter low melting point agarose beads
- Fabricated PDMS microfluidic chips from photolithographic mask and CNC-machined PMMA chips

Canon US Life Sciences: Research and Development Intern

Jun 2015 - Aug 2015

- Delivered automated and functional prototype based on theoretical concept for simple fluidic handling
- Applied knowledge of robotics to develop precise system controls and conducted image analysis in MATLAB
- Utilized a machine shop, CNC, laser cutter, 3D printer, and SolidWorks to rapidly develop 2D/3D prototypes
- Discovered a patentable technique to extend device capabilities and presented results to company

4K for Cancer: Lead Mechanic

Dec 2013 - Aug 2014

- Fundraised \$5,450 for the Ulman Cancer Fund to provide support for young adults with cancer
- Self-taught Jade, SCSS, JavaScript, JQuery, Leaflet, Grunt and Gulp for development of personal website

OPEN SOURCE CONTRIBUTIONS

Customizable-Bootstrap-Stylus: Ported Bootstrap-Less package to support Stylus (111 users and 5 stars)

Juxtapose-js: Bundled the popular Knight Lab image comparison tool as a Meteor package (120 lines contributed)

Momentum-Flow-Router: Created function to eliminate redundancy for user configuration (32 lines contributed)

CSS2Stylus.js: Utilized regular expressions to fix a critical issue, as reported by users (167 lines contributed)

TECHNICAL SKILLS

Programming: MATLAB, C, Python, CoffeeScript, Meteor, MongoDB, MySQL, Linux, Raspberry Pi, Arduino

Engineering Skills: Solidworks, AutoDesk, CNC Mill, 3D Printer, Machine Shop, Thermoplastic Fabrication

Biological Skills: BLAST/NCBI, PCR, Restriction Enzymes, DNA Sequencing, Protein Engineering, Cell Culture

CERTIFICATIONS AND AWARDS

SEEDS Research Fellowship: University of Maryland

Sep 2014 - May 2016

MTech ASPIRE Research Grant: University of Maryland

Sep 2015 - Dec 2015

Eagle Scout Award: Troop 792

Dec 2010