Kyle Morgan King

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EDUCATION

University of Maryland, College Park, MD *GPA: 3.81 / 4.00*
Bachelor of Science, Bioengineering *Expected May 2016*

Gemstone Honors Program: Team Liaison and Full Stack Developer *Expected Citation May 2016*
• Self taught MeteorJS framework to develop an interactive web application: https://redbarbikes.com
• Optimized Mongo database structure, integrated internet of things system, and secured data with user accounts
• Implemented user feedback by creating a reserve feature and releasing a simplified user interface
• Invented bike lock concept to prevent improper locking, while increasing usability and security

Startup Shell *Jan 2014 - Present*
• Developing a quantitative approach to headache diagnosis and treatment with web technology
• Developing an adjustable stage for a raspberry pi controlled microscope from laser cut and 3D printed parts
• Applied knowledge of AutoDesk while collaborating on a 3D printed pill dispenser prototype

QUEST Honors Program *Jan 2013 - Dec 2014*
• Built MeteorJS app for secure doctor and patient communication and presented the prototype at the Fall Showcase
• Applied design thinking to create a USB laptop security device and a food inventory application
• Improved customer experience and removed 10-20% of wasted time for Academic Computers for Terps

TECHNICAL EXPERIENCE

Maryland MEMS and Microfluidics Lab: Undergraduate Research Fellow *Jan 2014 - Present*
• Pioneered optical technique to improve microfluidic immunoassays for low-resource diagnostic applications
• Designed droplet generator to produce 10-20 μm diameter low melting point agarose beads
• Fabricated thermoplastic microfluidic chips with 50 μm channels using lithographic and CNC processes
• Researched acoustofluidic technology to concentrate liposomes with a piezoelectric device

Canon US Life Sciences: Research and Development Intern *Jun 2015 - Aug 2015*
• Conducted feasibility study of novel intellectual property for potential application in medical diagnostic device
• Developed scalable Arduino code for device automation and utilized MATLAB for image analysis
• Applied knowledge of Solidworks in designing and fabricating prototypes that demonstrate concept feasibility
• Optimized device limitations, discovered patentable benefits for fluidic handling, 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, JS, JQuery, Leaflet, Grunt and Gulp for development of personal website

DasSarma Lab, University of Maryland School of Medicine: Undergraduate Researcher *Jun 2013 - Aug 2013*
• Utilized restriction enzymes to create six mutant plasmids then reintegrated plasmids into Halobacterium

TECHNICAL SKILLS

Programming: Imaging Analysis in MATLAB, Arduino, Raspberry Pi, C, Python, UNIX, MeteorJS, MongoDB
Engineering Skills: Solidworks, AutoDesk, CNC Mill, 3-D Printer, Thermoplastic Microfluidics Fabrication
Biological Skills: BLAST/NCBI, PCR, Restriction Enzymes, DNA Sequencing, Synthetic DNA, 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*