Christopher M. Sharkey

516-965-2497 cms6590@psu.edu

Local Address: 304 Beaver Hall, State College, PA 16802 **Permanent Address**: 1 Knoll Lane, Glen Head, NY, 11545

Education

The Pennsylvania State University, University Park, State College, PA Aug. 2013 – May 2017 (Expected)
Bachelor of Science in Toxicology, GPA: 3.55 |Concentrations: Information Science Technology

Experience

Strategic Innovation Group Intern Incoming
Booz Allen Hamilton, Strategic Innovation Group | *McLean, VA*
- Data science focused group

Information Technology Intern August 2015 – Present
Humana, Enterprise Architecture | *Louisville, KY*
- Working on natural language processing of free text found in medical records and clinical notes
- Researching applications of machine learning in natural language processing
- Researching options for integrating natural language processing frameworks into existing architecture

Undergraduate Research Assistant Jan. 2014 – Present
Penn State, College of Information Science and Technology | *State College, PA*
- Previously worked on project utilizing computer vision to control humanoid robotic arm
- Currently working on project creating unmanned aerial vehicles with variable sensor payloads
- Java, C++, Arduino

Undergraduate Research Assistant Jan. 2014 - Present
Penn State, Department of Biochemistry and Molecular Biology | *State College, PA*
- Investigating quadruplexes in the Herpes Simplex Virus genome
- Quadruplexes are unique secondary structures and play possible roles in viral latency
- Investigated assembled genome of HSV strain H193
- Python, R and Linux HPC computing resources

Information Technology Intern May 2015 – August 2015
Humana, Enterprise Data and Analytics | Clinical Data, Louisville KY
- Created web application to monitor the onboarding of new lab connections
- Application assists in collection of HEDIS data
- HEDIS data determines in part the STARs bonus of Humana
- MVC, C#, .NET, Bootstrap, SQL

Web Developer May 2014 – Sept. 2015
Mobium Solutions LLC | *State College, PA*
- Full Stack Web development on Amazon Web Services
- Online solution paired with dedicated hardware to control individual or networks of 3D printers from the internet
- Website: www.mobiumsolutions.com
- MEAN Stack, Amazon Web services

Teaching Assistant Fall 2014 & Spring 2015
Penn State, College of Information Science and Technology, University Park, State College, PA
- Sensor and Effector Systems, IST 402
- Instructor John Hill

Student Research Assistant Dec. 2011 – June 2013
Winthrop University Hospital Neuroscience Research Center, Mineola, NY
- Investigated the origins of free iron in the substantia nigra of Parkinson's patients
- Investigated polymerization and aggregation of iron binding dopamine derived Neuromelanin
- Developed novel application of flow cytometry for particle polymerization analytics
- Developed a ferrozine based iron assay

Leadership

Co-Director, *Nittany Data Labs* Sept. 2014 – Present
- Working on food temperature data visualization project with Penn State Food Services
- Starting work on food ordering predictive modeling project with Penn State Food Services
- Starting work on transport optimizing project with Penn State Food Services
- Teaching python, machine learning and full stack web development

President, *Penn State Robotics Club* Sept. 2013 – Present
- Train new members on embedded programing with Arduino
- Management of multiple projects within the club
- Provide technical help to teams as needed

Deputy of Guidance Navigation and Control, *Lunar Lion Team* May. 2014 – Set. 2015
- Aerospace project team, prior Google XPRIZE team
- Lead systems integration on past test craft
- Worked on hardware integration of new components
- Worked on migration to ruggedized RTD flight system

Technology Captain, *Penn State IFC/Panhellenic Dance Marathon* Apr. 2014 – Mar. 2015
- Developed Digital Line Management System
- Managed Bryce Jordan Center at safe population over THON weekend
- THON is largest student run philanthropy in the world

Projects

Predicting Diabetes with Machine Learning September 2015
- Model for identifying if an individual has diabetes
- Tested ability of ZeroR, OneR, Naïve Bayes and C48
- Utilized meta- algorithms including boosting and bagging
- Competed at PennApps hackathon at University of Pennsylvania

Predicting Kidney Disease with Machine Learning July 2015
- Model for identifying if an individual has chronic kidney disease and if so which stage they are in
- Tested ability of ZeroR, OneR, Naïve Bayes and C48
- Achieved 88.4% correct classification by 10 fold cross validation
- Competed at HackHi internal hackathon at Humana

Target Advertising using Machine Learning March 2015
- Targeted advertising for Edmunds.com, models built from their data
- Classify user by behavior into class of ad they were most likely to click on
- American Statistical Association Data Fest best overall project and most creative

Developer of Curriculum Jan. 2014 – Dec 2014
- Sensor and Effector Systems, IST 402
- Arduino based course on fundamentals of embedded programming and circuitry
- Wiki: https://goo.gl/Myurux

Electronic Medical Data Collection Jan. 2014 – Jun 2015
- Mashavu: Integrated Health Solutions
- Built internal circuitry for hand held data collection devices used in Kenya, Africa
- Prototyped devices currently in use

Awards 1st Place AEC Hackathon, 3rd Place Hack PSU, Recipient of Undergraduate Discovery Grant, Eagle Scout with Bronze Palms

Skills C/C++, Perl, Python, Machine Learning, 3D Printing, Bioinformatics, Linux/Unix, MEAN Stack, LAMP Stack

Publications

Engaget Japanese, Work as Undergraduate Research Assistant in College of IST was featured. Sept. 29, 2013
url: http://japanese.engadget.com/2014/09/27/world-maker-faire-kinect-leap-motion/