Tylar Seiya Farmer

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EDUCATION

College of Computing, Georgia Institute of Technology, Atlanta, GA

M.S. Computer Science   *August 2021 to Present*

- Online Master of Science Computer Science Program
- 4.0 GPA, 3/10 courses complete
- Relevant Coursework: Architecture Design, Game Design, Health Informatics, Human-Computer Interaction

Swanson School of Engineering, University of Pittsburgh, Pittsburgh, PA

B.S. Chemical Engineering   *August 2015 to April 2019*

- 3.50 GPA – Honors College, Dean's List (7/8), Magna Cum Laude
- Relevant Coursework: Systems Engineering (I, II), Product Design (I, II), Intermediate Java, Data Structures, Transport Phenomena, Reactive Processes, Organic Chemistry (I, II), Physical Chemistry, Biochemistry, Statistics, Differential Equations, Safety and Ethics

EXPERIENCE

Smith+Nephew, Pittsburgh, PA

SQA Engineer II - Robotics   *January 2020 to October 2022*

- Work as the lead QA SME from feasibility to post-market for the RI.HIP MODELER project, the world's first class II medical device that uses simulations as a predictive element for total hip arthroplasty (THA) planning on the iPad, which interfaces with Brainlab's Quentry Cloud service
- Work as the lead QA SME from feasibility to post-market for the RI.HIP NAVIGATION project, the implementation of THA navigation software onto our next-generation robotics surgical system
- Work on projects in both waterfall and agile development frameworks
- Work with engineering staff to author and review project documentation, including design specifications, FMEAs, risk management files, V&V plans, tests, and reports, and trace matrices
- Populate risk analyses for internally reported and fielded defects, consulting complaint histories and determining the necessity of CAPAs
- Host risk reviews and communicate safety and efficacy to a review board throughout project life cycle
- Design the system for customer service inquiry reporting, designating proper communication of reports between multiple companies
- Rework project harms lists to be aligned with IMDRF annexes
- Rework quality procedures, work instructions, forms, and project documents to be compliant with ISO 14971, ISO 13485, 21 CFR 820, IEC 60601, IEC 62366, and IEC 62304
- Communicate with third-party vendors to ensure quality agreement activities are handled appropriately

University of Pittsburgh, Pittsburgh, PA

Principal Engineer – Shoemaker Lab / UPMC   *October 2018 to July 2019*

- "The best and most reliable engineer we've ever had work on our team. Would be thrilled to discuss at any time: 412-539-6900." - Jason Shoemaker, PhD, PI.
- Worked with UPMC to prototype, program, and fabricate the Uterine Tone Monitor, an ISO 14971-compliant mobile pressure data logging medical device to detect postpartum maternal hemorrhaging
- Met with our client to discuss design demands and device goals for use in UPMC delivery rooms
- Scheduled meetings, provided project updates to the client, created solutions to road blocks, and developed end-goals for the device in an Agile environment to reach project milestones
- Programmed the ESP8266 microcontroller to interface with signals from SD card readers, VGA inputs, RTCs, OLED screens, Wi-Fi modules, batteries, and switches/buttons using Arduino
- Designed and fabricated device's circuit board and housing, calibrated pressure reading using LabView
- Developed software to troubleshoot, debug, and validate device functionality
- Authored deliverables in the form of technical documentation, schematics, BOMs, and changelogs
- Performed endurance testing, what-if analysis, and root cause analysis to improve device design

- Advised and guided a floor of 35 college freshmen, including facilitating floor communication, enforcing the student code of conduct, and promoting campus events
- Met weekly with others RAs to build team chemistry and create ideas to improve the well-being of students

Fujirebio Diagnostics, Malvern, PA
Biomarker Development / QA Intern   *May 2016 to August 2018 (Summers)*

- Trained in Good Manufacturing Practice (GMP) in an FDA regulated medical device industry
- Developed a program in JMP, a statistical coding language, to perform detection limit analyses on process data from immunoassay machines, resulting in a 1-2 hour time reduction per process cycle
- Drafted SOPs for usage of various process equipment and reviewed documents for non-conformance issues, resulting in simplified equipment protocols and improved quality control
- Performed internal audits of laboratories and storerooms in preparation for external audits
- Performed and analyzed BCA assays on immunosuppression protein retentate, the results of which were showcased at the 2018 AACC Annual Meeting & Clinical Lab Expo

SKILLS

Engineering Design and Risk Management

- Worked with a team of five engineering students to design the process and equipment specifications for a mock methanol plant, including dynamic material and energy transfers, OSHA and EPA regulations, optimization via pinch analysis, controller design via PID, feedforward, and cascade controls, and profit using Aspen Plus and Aspen Economic Analyzer (Capstone)
- SaChE certified in eight key engineering risk management areas, certifications available upon request

Technical Writing

- Authored technical papers detailing the thermodynamics of batch reactors, PFRs, CSTRs, double-pipe heat exchangers, and modes of heat transfer
- Authored "Rational Design Protein Engineering Through Crowdsourcing," an analysis of the future of different protein engineering methods, which was published to the Journal of Student Research

Laboratory Competency

- Experience with aseptic technique, SDS-PAGE, immunoassays, PCR, IR and NMR spectroscopy, mass spectrometry, HPLC, and separation via distillation
- Worked with the SEA-PHAGES lab to discover, isolate, and sequence the Meeseeks bacteriophage, the results of which were presented to professors and archived in the Actinobacteriophage Database
- Worked with the CURE lab to characterize an antibiotic compound from a species of *Streptomyces*

Computer Competency

- Projects include the UPMC Uterine Tone Monitor (Arduino), Website (HTML/CSS), Fujirebio detection limit analyzer (JMP), system controllers (MATLAB/Simulink), and various tools (Java)
- Adept with Microsoft Office Suite, Excel Macros, Aspen Plus, AutoCAD, Blender, Arduino, MATLAB/Simulink, JMP, Java, C++, HTML, JavaScript, CSS, and Unix Systems
- Regularly 3D model, render, and animate using Blender, occasionally model with AutoCAD