ALAY SHAH

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EDUCATION

The University of Texas at Austin Bachelor of Science | Biomedical Engineering May 2021
GPA: 3.74, Engineering College Scholar

TECHNICAL SKILLS

- Engineering Coursework: Signals & Systems Analysis, Embedded Systems, Computational Biology & Bioinformatics, Engineering Physics, Numerical Methods, Differential Equations, Linear Algebra, Engineering Statistics, Thermodynamics
- Computer Science Coursework: Python, SQL, R, MATLAB, C
- Hardware Design: PCB Circuit, AutoCAD, SolidWorks

EXPERIENCE

R&D Innovation (Upstream Pilot Manufacturing) Co-Op – *Genentech* Jan 2020 – Sep 2020

- Responsible for successfully moving refractive index project to characterize media dissolution from R&D to GMP pilot implementation and first-authored peer-reviewed technical report for manufacturing
- Engaged with stakeholders to determine optimal GMP assessment structure & tech transfer strategy
- Developed telemetry data pipeline from Raspberry Pi IoT to cloud platforms (AWS, GCP, Tableau, SQL, Python)
- Digital Manufacturing: Tested augmented reality solutions for integrating into (SR, BR, SOPs) and created a Gemba Walk process workflow for clinical supply chain and warehouse operations

Center for Computational Oncology Researcher – *Dr. Sorace, The University of Texas at Austin* Aug 2017 – Dec 2019

- Programmed MATLAB scripts to evaluate breast cancer tumor and treatment response from raw Incucyte imaging data
- Researched combinations of cancer therapies to develop tailored treatment for patients with HER2+ breast cancer

Biomedical Engineering Tutor – *The University of Texas at Austin* Jan 2019 – Dec 2019

- Instructed students on engineering statistical concepts and machine-learning algorithms using R
- Developed tutoring style to each student's strengths to effectively convey information and strengthen writing skills

Computational Bioinformatics Researcher – *Dr. Iber, ETH Zurich, Switzerland* Jun 2019 – Aug 2019

- Analyzed lung epithelial cells and their mechanical forces using R and MorphoGraphX 3D imaging software
- Awarded ThinkSwiss Research Scholarship

Senior Science and Technology Writer – *The Daily Texan* Jan 2017 – Dec 2017

- Authored 15 published articles highlighting campus discoveries in healthcare and technology to educate UT populous

LEADERSHIP

Vice President – *Alpha Eta Mu Beta (AEMB), International Biomedical Honors Society* Aug 2018 – Dec 2019

- Managed smooth running of organization, executed fundraisers, handled corporate relations, and prepared meeting slides
- Increased BME Mentorship membership by 25% through social events and fostering an inter-departmental community

Program Officer – *UT SEEK, Student Engineers Educating Kids* Jan 2018 – Dec 2018

- Coordinated engineering, project-based learning to kids from low-income backgrounds and led team of mentors weekly

PROJECTS & PUBLICATIONS

Orthopedic Screw Design Innovation for Osteoporotic Bone, BME Capstone Design Oct 2020 - Present

- Collaborate with surgeons from Dell Medical to identify customer needs and design prototypes using SolidWorks
- Wrote detailed product design specifications and quality requirements document that follow FDA-510(k) standards
- Lead team by planning Gantt Charts and drafting weekly progress agendas under tight timelines

American Association for Cancer Research Aug 2019

- AM Jarrett, A Shah, MJ Bloom, MT Mckenna, DA Hormuth, TE Yankeelov, AG Sorace (2019). Experimentally-driven mathematical modeling to improve combination targeted and cytotoxic therapy for HER2+ breast cancer. *Nature Scientific Reports*, SREP-19-16463B

Biomedical Engineering Society Team Case Competition Nov 2017

- Awarded Honorable Mention for pitching functional hypothermia sensor using ARM microcontroller and C