

NAYAN KONDAKALLA

nayankay@gmail.com

SUMMARY

Engineering graduate with a strong background in medicine and engineering. Experienced in research, design generation, project management, and team building. Currently seeking to gain experience in mechanical engineering.

ENGINEERING EXPERIENCE

Innovation Intern – *Stony Brook University Hospital*

Stony Brook, NY

September 2019 – May 2021

- Prototyped a food-dispensing device using needs-based engineering methods
- Proposed potential technological improvements in coordination with medical professionals
- Led a team to build a working prototype for a novel neonatal electrocardiogram
- **Project: NeoECG**
 - Generated the idea after finding a significant need to increase the comfort of the baby and the ability for nurses to work efficiently around a neonatal electrocardiogram (ECG) in a NICU setting. The design aimed to reduce rashes resulting from adhesive electrodes and work in a wireless configuration to reduce the number of wires on the baby's chest.
 - Created a multidisciplinary team and delegated design goals based on team members' strengths
 - Drafted general design blueprints and generated part ideas in Autodesk Fusion 360 after listing design criteria
 - Created a portfolio and presentations to attract potential investors to our project
 - Due to the COVID-19, the supply of parts was limited, and the original design goal could not be met. The team shifted to create an ECG that could be used in a home environment and alerted parents/physicians to abnormal rhythms
 - Extensively improved the design of the ECG after multiple quality tests, cost analyses, and part improvements.
 - Created a business and marketing strategy for our final prototype
 - Our project was presented to a medical professional, a senior engineer, and a patent lawyer to determine the efficacy of our design.

Data Analyst/Research Assistant – *Center for Understanding Biology using Imaging Technology*

Stony Brook, NY

April 2019 – Present

- Developed various predictive models based on existing data from patients
- Assisted with developing a machine-learning model to predict patient outcomes
- Taught new assistants coding and other necessary laboratory methods
- **Thesis: Quantitative Analysis of Actigraphical Data for Major Depressive Disorder**
 - The goal of this study was to find if patients improved, and would continue to improve, from major depressive disorder using actigraphical data like the ones stored by a pedometer.
 - Created the cosinor model for predicting patterns in patients' Hamilton Depressive Scale before and after treatment to determine if a patient did benefit from escitalopram and cognitive behavioral therapy (CBT)
 - Switched to using singular spectrum analysis (SSA) after finding studies that suggested better predictive accuracy and less variability from the data compared to the cosinor model
 - During COVID-19 shutdown, the lab verified patient files using the Stony Brook databases and ActiCal data.
 - Worked closely with a graduate student to create a XGBoost machine-learning algorithm to create a Poisson regression to predict a patient's continued response to escitalopram/CBT treatment
 - Assisted in writing a technical paper that is currently being peer-reviewed

MEDICAL EXPERIENCE

Medical Assistant – *Southern Gem Hospital*

Hyderabad, India

June 2019 – August 2019

- Assisted the receptionist with welcoming and discharging patients into the clinic
- Measured patient vitals and assisted Dr. Nathani with various tasks
- Scribed patient information into the hospital database

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Health Programs Advisor – *Health Guardians of America SBU*

- Co-founded the club and recruited new members
- Updated and modified FitLifeFlow app as needed
- Raised awareness of obesity in college students to improve campus health

Stony Brook, NY
February 2018 – February 2019

Emergency Medical Technician – *Wantagh-Levittown Volunteer Ambulance Corps*

- Received EMT-B training from St. John's University
- Assisted EMS professionals on an ambulance when necessary.
- Attended yearly competitions with teammates

Levittown, NY
March 2016 -July 2019

Shadow – *Kingsbrook Jewish Medical Center*

- Helped Dr. Shukla and medical students take patient vitals
- Assisted with scribing patient information into the hospital database
- Operated and maintained electrocardiogram and spirometry machines under supervision

Brooklyn, NY
June 2015 - August 2019

TEACHING EXPERIENCE

Tutor – *Mathnasium*

- Worked closely with teachers, parents, and students to achieve success in mathematics
- Offered classes to students struggling in biology, chemistry, statistics, and physics
- Independently managed Mathnasium centers

Syosset, NY
November 2019 – Present

Teaching Assistant – *Biomedical Engineering 305 (Biofluids)*

- Held weekly office hours and review sessions for students
- Assisted with the grading of students' homework
- Proctored and graded midterm and final exams

Stony Brook, NY
February 2021 – May 2021

Teaching Assistant – *Chemistry 152 (Advanced General Chemistry)*

- Held weekly office hours and review sessions for students
- Encouraged student participation by facilitating discussions during lectures and recitations
- Worked with graduate teaching assistants to organize curriculum materials during meetings

Stony Brook, NY
August 2018 – December 2018

HONORS, AWARDS, AND MEMBERSHIPS

- Dean's List
- Member of Tau Beta Phi Engineering Honors Society
- Member of Alpha Eta Mu Beta Biomedical Engineering Honors Society
- Brandeis University Global Youth Summit on the Future of Medicine July 2016 Symposium finalist

EDUCATION

Stony Brook University

Bachelor of Engineering, Biomedical Engineering, Cellular and Molecular BME
Magna Cum Laude (GPA: 3.75)

Stony Brook, NY
May 2021

SKILLS

Software: Proficient in Office, MATLAB, AutoCAD, R, SPSS, Java, Python, Finite Element Analysis

Languages: Intermediate Spanish, Fluent Telugu, Beginner Hindi

Certifications: EMT-B