Nikhil Pradeep

24325 Pine Springs Ln, Aldie, VA 20105 • nikhilpradeep2012@gmail.com • (703) 509-6657

EDUCATION

VIRGINIA TECH - *Blacksburg, VA* *August 2022 - May 2024*
Master's of Science in Biomedical Engineering (Part of Accelerated Masters Program at VT)

VIRGINIA TECH - *Blacksburg, VA* *August 2019 - May 2023*
Bachelor's of Science in Biomedical Engineering *GPA: 3.37*
Minor in Computer Science *In-Major GPA: 3.62*

Relevant Coursework: Computational Biology and Bioinformatics, Biological Statistics, Data Structures and Algorithms, Engineering Mathematics, Linear Algebra, Intro to Computer Organization, Problem Solving in BME

PROFESSIONAL EXPERIENCE

DATA ANALYTICS INTERN, National Institutes of Health - Advanced Visualization Branch *May 2022 - Aug 2022*

- Worked within the Advanced Visualization Branch in the National Institute of Nursing Research.
- Completed individual project which explored statistical relations between practice VR session data and performance data within a Cognitive Fatigue inducing Virtual Reality environment.
- Merged data from individual's Virtual Reality grocery store session output with Nutrition data for products within store using R and Excel.

UNDERGRADUATE RESEARCH ASSISTANT, VT SAFETY IMPACT Lab *Oct 2021 - Present*

- Identifying roadside encroachments in multiple datasets to cover the breadth of vehicle types and encroachment severities.
- Utilizing R, Python, Linux/Bash, and Cluster Computing, to model this statistical data to understand characteristics of roadside encroachments which result in a crash.

UNDERGRADUATE RESEARCH ASSISTANT, VT Mechanics of Living Materials Lab *Jan 2020 – Aug 2021*

- Employed computational finite element modeling to create 3D meshes of bacterial cells.
- Used SolidWorks, gmsh, Bash shell scripting, to model the elasticity and and adhesion of these bacterial cells onto nanofibrous substrates and surfaces for application with medical devices.

TECHNICAL PROJECTS

TEAM LEAD/SIMULATION MANAGEMENT, Senior Capstone Project *Aug 2022 - Present*

- Developing a functioning Virtual Reality bicycle simulator and related computational analysis techniques based on cyclist interactions with vehicles on public roads.
- Goal: Gain insight into cyclists' behavior to improve their safety.

DATA ANALYTICS LEAD, Intro to Biomechanics Final Project**,** *Jan 2022 - May 2022*

- Utilized Vicon motion capturing mechanism to record angular and linear data of extremities of human subject.
- Conducted statistical modeling and interpolation of motion data in Excel to create figures that plot displacement, velocity, and acceleration over time.

SOFTWARE LEAD, Bioinstrumentation Lab Final Project *Aug 2021 - Dec 2021*

- Created a functioning pulse oximeter that utilized biomedical circuitry and Arduino code to accurately display oxygen content of user's blood.
- Implemented oximetry formulas and absorption calculations to create device driving Arduino code.

CAMPUS ACTIVITIES

CAPTAIN, Virginia Tech Virodh *Aug 2020 - Present*

- Founding member of Bollywood fusion all-men's dance team at VT.
- Coordinates and oversees team executive board to plan logistics for inter-collegiate dance competitions.
- Lead practices and create choreography, formations, and media productions for team performances

SKILLS

LANGUAGES: R, Python, Java, MatLab, C, Linux/Bash environments
APPLICATIONS: R Studio, Tableau, Docker, Git, Granta, Minitab, SolidWorks, gmsh, Unity, ArcGIS, Microsoft Suite