

Navya Nair

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Education

Bachelor of Science in Biomedical Engineering

Expected Graduation: May 2025

- University of Florida
- GPA: 3.79/4.0

Publications

- Hey, G., **Nair, N.**, Klann, Emily., et.al (2023) Therapies for Parkinson's disease and the gut microbiome: evidence for bidirectional connection. *Frontiers in Aging Neuroscience*, 15. <https://doi.org/10.3389/fnagi.2023.1151850>

Skills

- SolidWorks (Certified), KiCad, PCB, Soldering 3D Printing, Arduino Circuitry, Soldering, Onshape, Blender, Adobe InDesign, Canva, Linux Operating System,
- Wetlab, Drylab, Lab Mouse handling
- Technical Languages: C++, MATLAB, Python, ROS2, Javascript | Verbal Languages: English, Spanish, Malayalam

Work/Research Experience

Research Intern | Technology for Occupational Performance (TOP) Lab

May - August 2023

- Conceptualized a research project focused on evaluating the effectiveness of mobility devices, specifically walkers, in enhancing the well-being of older adults
- Conducted a literature review of over 30 relevant articles to gather relevant information about the use of mobility devices among older adults
- Utilized Theia Markerless and Visual3D software, AI Markerless motion capture system, to assess the biomechanics of participants using walkers and gain insights into their gait, posture, and overall movement patterns

Research Assistant | Dept. of Neurology, Parkinson's Disease (PD) Research Lab

January 2022-Present

- Studies fecal microbial transplantation (FMT) as a treatment option for PD by observing effects intragastrically administering stool solution has on mice
- Collects data on mouse models through gait analysis, brain tissue collections and staining, imaging and counting alpha-synuclein plaque as written in the IACUC protocol and animal welfare
- Reviews and publishes literature regarding PD to learn about recent developments and how it can be applied to current research

Design Experience

Surgical Team Member | Dream Team Engineering

January 2023-Present

- Works with a team of 6 using CAD models (Solidworks), molding, and other technical skills to generate a flow model of a kidney transplant for surgeon residents at UF Health to practice on
- Attends weekly meetings with team members to model, mold, and iterate the current design to fit the needs of the user and meets with a UF Health physician to gain feedback on the design and usability

Autonomous Vehicles | Special Topics in Mechanical Engineering

January - May 2023

- Participated in a comprehensive course on autonomous vehicle design, covering key topics such as machine learning, computer vision, and control systems through Linux and ROS2
- Collaborated with a team of three to operate an autonomous vehicle prototype, using advanced software tools, such as LIDAR, publishing and subscribing nodes, GPS receivers, and embedded systems
- Tested autonomous vehicles in a real-world setting both on a closed track and in a variety of challenging outdoor environments

Leadership and Involvement

Deputy Majority Party Leader | UF Student Government

October 2022-Present

- Elected as one of the 100 senators representing the interests of the 60,000 students at the University of Florida by writing and voting on legislation for the betterment of the campus
- Authored legislation encouraging University of Florida students to vote in the 2022 Midterm elections and advocating for protections against political encroachment
- Managed a caucus of 48 senators through weekly meetings to keep party members informed and engaged in the legislative process.