

# Arnav Bandam

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**Education: Bachelors of Science in Neuroscience | University of Virginia, Charlottesville, VA | GPA: 3.97 | C/O 2028**

## Objective:

Pre-medical student with extensive hands-on research and hospital training/experience seeking a summer research internship to improve scientific skills, contribute to field-leading research and promote clinical solutions, with a focus on neurodivergent populations. Academic Goal: MD/PhD

## Technical Skills:

### • Certifications and Trainings:

- Nationally Registered Emergency Medical Technician (EMT-B), American Heart Association BLS/CPR Provider
- Registered Behavioral Technician (RBT)
- INOVA Clinical Technician Academy
- Trainings: CITI Workplace (Good Clinical Practice, Biomedical Research, Human Subjects Research, Social and Behavioral Research), Zebrafish AALAS & Microsurgery training, Biosafety Level 2 lab, HIPAA
- **Lab:** Mice Perfusions, 2-photon microscopy, STS-PAGE, Western Blot, Laser Capture Microdissection, Bradford Assay, Immunoprecipitation, Silver Stain, Cell Viability, MRI/CT Software
- **Coding/Analysis:** Python, R, Java, C++, C#, Arduino, CalmAn, Suite2p, DeepLabCut Live, IdTracker.ai, DeepCinac, MATLAB, Epic Hyperspace, G\*power, Fiji/ImageJ, AlphaFold3

## Research Experience:

### Neuroscience/Data Analysis Internship, University of Virginia, Charlottesville VA

#### May 2023 - Present

- Work under the direction of Dr. William Mills in the Eyo lab for Neuroscience, Brain Immunology/Glia
- Identified the relationship between Alzheimer's Disease and capillaries with nucleated microglia in mice
- Implement image and data analysis programs including Fiji, G\*Power, and R
- Gained hands-on experience through mice perfusions, 2-photon microscopy, light-microscope and z-depth neural imaging
- Coauthor on posters at 2023 Society for Neuroscience Annual Conference and 2025 ReThinkNeuroimmunology Symposium

### Aspiring Scientists Summer Internship Program (ASSIP), George Mason University (<10% acceptance rate), Fairfax VA

#### Jun 2024 - Aug 2024

- Interned with Dr. Lance Liotta in the Center for Applied Proteomics and Molecular Medicine
- Studied the effects of CCCP and BafilomycinA1 on secretory mitophagy in neurofibromatosis cells
- Performed FIS1 gene knockout on ovarian cancer cells
- Verified new pathway to prevent oncogenesis through immunoprecipitation
- Imaged all proteins/antibodies through dozens of Western Blots analyzed with Fiji
- Published 3 [abstracts](#), 1 [paper](#) in Frontiers, 3 [posters](#) for local conference

### Research Intern at Department of Biomedical Informatics Yu Lab, Harvard Medical School, Boston MA

#### Oct 2024 - Jan 2025

- Leveraged AlphaFold3 servers to model protein-protein interactions via FASTA sequence input under Dr. Junhan Zhao and Dr. Dawei Zhao

### TJHSST Mentorship Program at Developing Brain Institute, Children's National Hospital, Washington DC

#### Aug 2024 - May 2025

- Operated MRI machines/Siemens Healthineers software and contributed to clinical analysis under Dr. Kevin Cook and Mr. Kushal Kapse
- Analyzed datasets connecting neonatal pain and congenital heart disease to brain volume growth
- Furthered discoveries on the correlation between neonatal pain and regionalized brain development

### Neuroscience/Data Analysis Internship, Georgetown University, Washington DC

#### May 2023 - Present

- Work with Dr. Jagmeet Kanwal in the Neurophysiology and Behavior Lab

- Utilize the GCaMP6m protein to find the effect of audio stimuli on zebrafish neural activity
- Apply two-photon calcium imaging to produce accurate .tiff files
- Structure data analysis using CalmAn, Suite2p, DeepLabCut Live, IdTracker.ai, and DeepCinac programs
- Presented [posters](#)/presentations at Georgetown Neuroscience Department Rotation Talk, 2023 Society for Neuroscience Annual Conference and 2024 Undergraduate Research Conference

## Work Experience:

### Patient Care Technician, UVA Hospital, Charlottesville VA

*Nov 2025 - Present*

- Working as a wage/part time employee at UVA Hospital's 6-West Neuro/Neuro ICU
- Daily tasks include vitals, EKGs, ultrasounds, blood sugar checks, behavioral response, patient transport, and comfort rounds

### Clinical Technician I, INOVA Hospital, Fairfax VA

*Jun 2025 - Sept 2025*

- Worked full time at INOVA Fairfax Adult Observation Unit (PSB2) with daily tasks including blood draws, IV insertion/removal, Foley catheters, bowel ultrasounds, ECGs/12-leads, blood sugar, vital sign recording and monitoring, and smaller patient support roles
- Completed INOVA's Clinical Technician Academy providing specific training on the patient care skills and emergency response
- Gained 200+ hours of direct patient contact and experience – complemented by my EMT certification
- Learned valuable skills in communication and continuum of care between Clinical Technicians, LPNs, RNs, and ED/Rounding Physicians

### Registered Behavioral Technician, Step Ahead ABA, Lorton VA

*Jun 2025 - Sept 2025*

- Developed learning plans and preference/functional assessments with differential reinforcement, shaping, and discrimination training
- Tailored schedule to individual clients in coordination with BCBAs for behavior promotion and reduction, post-RBT certification

### Clinical Observership/Internship, INOVA Hospital, Loudoun VA

*Jun 2024 - Jan 2025*

- Shadowed Hospitalists' Medical Director Dr. Venkata Allada through admitting, rounding, and discharging for 400+ hours
- Shadowed Dr. James Leiphart in INOVA neurology clinic and scrubbed into various neurosurgical operating room procedures
- Learned diagnostic techniques, types of imaging, and patient-provider relationships
- Created and supported implementation of novel Epic Hyperspace program that notifies physicians of incomplete medication reconciliation resulting in 95% decrease in unfinished medication reviews: Projected to save \$11.6 million annually in readmission and medical tech costs
- Co-author on poster presented at Institute for Healthcare Improvement (IHI) Forum 2024

## Volunteer Experience:

### Gold Presidential Volunteer Service Award (PVSA) (500+ hours)

#### Asha-Jyothi (501c3 registered non-profit), Fairfax VA: 5k Event organizer, Website Admin, Packet pickup lead, U-haul lead

*September 2016 - Present*

- Raised over \$500,000 (2023)
- Fairfax Chapter Lead: Pre-run venue setup, Post-run cleanup, Redpodium App User check-in and packet pickup
- Financial Management: Reached out to various corporate and event partners including Wegmans, New York Life, and Camelot
- Website Admin: [New campaigns](#), Site upgrading/redirection

### [Medical Innovation Society](#) (Co-founder), Chantilly VA

*Mar 2023 - May 2025*

- Founded a 501c3 registered non-profit that raises funds for research and new medical products
- Raised \$7000+ to-date to engage youth in STEM fields by providing mentorship and experiential learning opportunities
- Published over 6 papers and abstracts, 6 conference posters, and a patent in various medical fields
- Hosted 12 workshops through partnerships with prestigious universities and renowned hospitals

**Languages:** Spanish (proficient), Telugu (proficient), English (fluent)