Sri Varshitha Pinnaka

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Education

University of Washington, Seattle, WA — June 2026

B.S. Computer Science and Neuroscience. Robinson Scholar/Early Entrance Student. CGPA: 3.85

Relevant Coursework: Machine Learning, Algorithms, Data Structs and Parallelism, Data Visualization, Systems Neuroscience, Cellular/Molecular Neuroscience, Diseases of the Nervous System, Computational Models for Cognitive Neuroscience, Neuropharmacology, Organic Chemistry, Biochemistry, Physics

Relevant Research

Allen Institute for Brain Science — Seattle, WA

Research Intern, advised by Matthew Schmitz — Summer 2024

- Investigated the diversity of brain cell types and evolutionary relationships using deep learning architectures (Enformer) based on CNNs/transformers.
- Implemented Enformer to identify important sequences for transcription regulation within Allen Institute genomes, compared similarity scores across related species, their genomes, and between brain regions of the same species.
- Presented work at annual Allen Institute intern poster symposium.

Stuber Lab, University of Washington — Seattle, WA

Undergraduate Research Assistant, advised by Adam Gordon-Fennell — Sept 2025 — June 2026 + April 2022 — Sept 2022

- Planned senior honors thesis in neuroscience: developing an open-source software package to automate 2-photon microprism microscopy data processing and registration to brain regions.
- Worked 12-15 hours per week contributing to wet-lab neuroscience research. Used fiber photometry, 2-photon spectroscopy, behavioral experiments, and brain histology to understand the mechanism behind consummatory behaviors in the brain.
- Gained experience with 3D printing, circuitry, and assembly of hardware to build behavioral experimental set-ups.

Molecular Information Systems Lab, UW Paul G. Allen School — Seattle, WA

Undergraduate Research Assistant, advised by Gwendolin Roote, Tracy Mallette, and Zoe Derauf — Oct 2022 — June 2025

- Contributing to molecular biology and computation research, working 15 hours/week. Working on building leakless strand displacement systems under the Molecular Programming Group, currently focused on engineering G-quadruplex reporters.
- Recreated traditional semiconductor circuit logic using cellular signaling mechanisms and signaling molecules in bacteria.
- Custom parts assembled and designed for a 'bioprinter' to print spatially separated circuits made of programmable biomolecules.
- Independently ran assays, including PCR, gel electrophoresis, and other DNA quantification/analysis techniques for projects involving bioprinting with the FRESH printing method and Cas9 similarity search.
- Designed scripts using OpenTrons Python API to automate lab tasks.

Other Research

Systems Neuroscience and AI Lab, UW Paul G. Allen School — Seattle, WA

Undergraduate Research Assistant, advised by Joe Pemberton — September 2024 — December 2024

- Utilized machine learning architectures to study and use BCI datasets in collaboration with the Allen Institute.
- Worked towards improving a theoretical solution implementing active learning to predict photostimulation patterns for efficient experimentation.
- Determined best-performing low-rank model for predictive modeling on Allen Institute photostimulation datasets.

Bruchas Lab, University of Washington — Seattle, WA

Undergraduate Research Assistant, advised by Jingyi Chen — Jan 2023 — Oct 2023

- Contributed to computational neuroscience research working 5-10 hours per week.
- Conducted random forest and PCA tests to determine the feature that causes stress responses in mice after exposure to chronic isolation and exercise.
- Aligned single-cell imaging data collected with a miniature microscope (using calcium imaging) across trials and days.
- Designed MATLAB and Python algorithms to analyze behavioral event data.

Presentations & Publications

Articles

Virtual Academic Tourism: Takeaways from Greece (in submission) — April 2025

Taso G. Lagos, Anamaria Tepordei, Daniel Chen, **Sri Varshitha Pinnaka**, Alyssa Jones

Journal of Tourism History

Talks

Spatially Separated Computation in Synthetic Biology: Field Programmable Cellular Arrays.

Sri Varshitha Pinnaka. UW Undergrad Research Symposium, May 2024.

Posters

G-Quadruplex Reporters for Accessible Point of Care Detection.

Sri Varshitha Pinnaka, Sophia Contos, Zoe Derauf, Tracy Mallette, Chris Thachuk. UW Undergrad Research Symposium, May 2025.

Deep learning architectures for investigating enhancer differences across regions and evolution.

Sri Varshitha Pinnaka, Matthew Schmitz, Nelson Johansen. Allen Institute Intern and Postbac Poster Symposium, Aug 2024.

Conference Abstracts

Decoding Claustrum Neuropeptidergic Control of Stress-Induced Binge Eating December 2023
Jingyi Chen, Leandra Mangieri, Sophia Mar, Sean Piantadosi, **Varshitha Pinnaka**, Phoenix Davis, Benjamin Land, Michael Bruchas
American College of Neuropsychopharmacology 62^{nd} *Annual Meeting*
https://doi.org/10.1038/s41386-023-01755-5

Leadership and Community Involvement

UW Society of Asian Scientists and Engineers University of Washington
Co-President June 2023 — Present
- Planning and presenting at monthly events with companies (approx. 40 attendees per event) to help students learn more about STEM.
- Oversaw planning of STEM industry events and working on initiative to increase biotech and science industry presence on campus.
- Oversaw planning of social events to bring together engineering and science events at UW, including bowling, mixers, and game nights.
- Representing SASE at the Engineering Student Council, formed by the UW College of Engineering.

Public Relations Lead June 2022 — June 2023
- Coordinated events with industry partners, including Google, Blue Origin, Amazon, Boeing, and other Seattle-based companies. Events were planned to help students learn about innovation and opportunities in various STEM fields.

General Leadership Officer September 2021 — June 2022
- Trained under established officers and learned about company/community outreach, professional event planning, and graphic design.

UW Pre-Health Book Club University of Washington
Vice-President January 2024 — Present
- Planned bi-weekly meetings to read books about healthcare. Facilitated discussions surrounding relevant current issues in medicine, ensuring that all discussions were respectful and inclusive.
- Created marketing materials and promoted the Pre-Health Book Club to various groups of interest.

Grey Matters Neuroscience Journal University of Washington
Outreach Team Member January 2023 — Present
- Participated in outreach to high schools for neuroscience education.
- Planned the annual Grey Matters An Evening With Neuroscience (EWN) event. Specified groups and panelists of interest to invite to EWN; made sure groups were diverse and representative.

Volunteering and Shadowing

Seattle Children's Hospital Seattle, WA
Evening Volunteer April 2025 — Present
- Washed toys, organized toys, and delivered toys to nurses or patients on the units.
- Assisted staff with patients and/or siblings who visit the playroom.

ROOTS Homeless Shelter Seattle, WA
Evening Volunteer February 2024 — Present
- Engaged with guests to socialize and build community while working to ensure the emotional and physical safety of the shelter space.
- Set up the shelter each night, handed out hygiene supplies and bedding, and supervised guest activities such as computer time and smoke breaks. Spent time with guests chatting over dinner, playing board games, and watching TV together.

Medical Shadow Virginia Beach, VA
Sentara Virginia Beach General Hospital August — September 2024
- Shadowed physicians in neurosurgery, cardiology, internal medicine, and emergency medicine for 58 hours throughout two weeks.

Jamestown Family Health Clinic March 2023
- Shadowed a variety of providers and specialists for 36 hours throughout one week at the Jamestown Family Health Clinic in as part of the UW Health Care Alternative Spring Break program learning more about rural medicine.

Prenatal Medicine Student Volunteer University of Washington
University of Washington Biomedical Engineering Society November 2021 — January 2022
- Gained experience with hospital outreach by interviewing 3 physicians in prenatal care.

Projects

Greece Virtual Study Abroad Jackson School, University of Washington
Anthropology Research Assistant August 2021
- Virtual study abroad in a group of 21 undergraduate students under Jackson School of International Studies at the University of Washington.
- Interviewed 7 residents from Greece about their experiences with the COVID-19 pandemic; contributed to analysis of responses after the study abroad program.

Separating Oxygen from Ambient Air Using the Paramagnetic Properties of Oxygen Respiracon II Hackathon
Team Pandemic! At The Disco February 2022
- Designed a device to separate oxygen from ambient air using the paramagnetic properties of oxygen.
- Awarded Best Performance in Innovation.

Target Malaria University of Washington
UW Bioengineers Without Borders October 2021 — August 2022

- Gained experience with basic wet lab techniques, including LAMP assays and gel PCRs; presented results to the larger team.
- Prototyped a device that identifies genetic modification in mosquitoes by designing and 3D printing parts.

Awards

CSE Award for Excellence Paul G. Allen School, University of Washington
This award is merit-based, established by funds from anonymous donors to the Paul G. Allen School. September 2024

Phi Beta Kappa Scholar University of Washington, Seattle
The oldest and nationally most respected academic honors society, recognizes distinguished students in the arts and sciences. July 2024

Skills

- **Programming:** Java, Python, SQL, JavaScript, TypeScript, MATLAB, HTML, CSS
- **Spoken Languages:** English, Spanish, and Telugu