Aneesh S. Pappu

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LinkedIn | GitHub

Education

Stanford University **Graduation Year: 2019 (Expected)**

- ***Intended B.S. Computer Science, Concentration in Biocomputation***
  - Co-Director of StreetHacks and instructor at StreetCode Academy, East Palo Alto's first hackathon

Washington State University **Graduation Year: 2015**

- Coursework included Multivariable Calculus, Linear Algebra, Ordinary Differential Equations, Physics (Mechanics, Electricity and Magnetism), Organic Chemistry, Biochemistry

Pullman High School **Graduation Year: 2015**

- ***Valedictorian, Student Rank: 1***

Programming Skills

- ✓ Languages: C/C++, Java, JavaScript, Python
- ✓ Frameworks/Technologies: MEAN stack, OpenCV, Raspberry Pi (both hardware and software), Razor IMU/Arduino
- ✓ Version Control/Project Management: Git, Mercurial, Phabricator
- ✓ General Abilities: Technical writing, editing, interpersonal communication, team leadership, collaboration

Projects & Experience

- DisasterMap
  - Built a web app with my friends that enables survivors of catastrophe to text in their status and location. It then plots their location and information so disaster relief organizations can coordinate rescue efforts
  - Built on MEAN stack. Used Google Maps and Twilio APIs
  - Live at DisasterMap.io
- Beme Hack
  - Reverse engineered the Beme app's API with my friend
  - Programmatically followed 100 users and broke the 6-second time limit for videos by uploading 2 minute-long videos
  - Used a combination of man-in-the-middle and SSL unpinning
- CalHacks 2.0
  - Designed "Swolemate", a smart personal trainer, using an Inertial Measuring Unit with team of Stanford freshmen
- Imagine Tomorrow Engineering Competition
  - Built a "smart recycling bin" that sorts trash from plastic bottles in order to incentivize recycling
  - Used a Raspberry Pi, Python, and OpenCV Python library
  - Captain of 4th place team at the Imagine Tomorrow competition hosted by Washington State University
- Bioinformatics
  - Analyzed bacterial chromosomes using Python and NCBI BLAST
  - Identified potentially therapeutic anti-fungal non-coding RNA

Honors and Awards

- Siemens Foundation Research Competition – Semifinalist, selected as one of top 300 out of 2000 for work on Parkinson's disease therapeutics.
- Coca Cola Scholar – Selected as one of 150 out of 103,000 by the Coca-Cola Scholars Foundation as a recipient of the Coca Cola Scholarship.
- National Merit Finalist/Scholar

Research/Work Experience

Research Intern, Amyris Biotech – Berkeley, CA **June 2015 – August 2015**

- Work supervised by Dr. Elaine Shapland, PhD
  - 10-week paid internship in strain engineering at a publicly-traded synthetic biology company
  - Performed culture, PCR amplification, next generation sequencing and CRISPR-Cas9 to aid development of strain engineering pipelines

✓ Lab techniques learned: PCR, Next-Gen Sequencing, CRISPR-Cas9, Yeast culture

Research Intern, Jansen Lab, Texas Tech Health Sciences Center – Lubbock, TX **June 2014 – August 2014**

- Work supervised by Dr. Michaela Jansen (PI) and Dr. Nirupama Nishtala (Post-Doc)
  - Intensive 7-week paid internship in pharmacology and biophysics at an internationally-recognized research institute in collaboration with biologists, geneticists, physicists, and engineers
  - Researched pharmacological interactions of bupropion, an antidepressant, and discovered possible mechanisms of seizure-causing activity. Trained MD/PhD to continue work
  - Gained scientific knowledge by attending daily lectures, seminars, and research presentations

✓ Lab techniques learned: Two-electrode voltage clamping, mRNA synthesis, mRNA expression in oocytes, gel electrophoresis

Research Intern, Dhingra Lab, Washington State University – Pullman, WA **November 2013 – January 2014**

- Work supervised by P.I. Dr. Amit Dhingra, PhD Christopher Hendrickson
  - Internship in bioinformatics lab analyzing bacterial genomes for novel antifungal ncRNA sequences
  - Used Python to parse and analyze bacterial genomic NCBI Blast Data for similarity against known ncRNA sequences

✓ Lab techniques learned: Python, NCBI BLAST

Research Intern, Harding Lab, Washington State University – Pullman, WA **June 2013 – December 2014**

- Work supervised by P.I. Dr. Joseph Harding, PhD Kevin Church
  - Internship in neurology lab, mechanisms of neurodegeneration in Parkinson's and the development of small molecule therapeutics for Parkinson's
  - Gained scientific knowledge by attending daily lectures, seminars, and research presentations.

✓ Lab techniques learned: Histology, ImageJ, Cell culturing, Western Blotting, Silver Staining

Research Publications and Posters

- **Complex Modulation of the GABAA Receptor Function by Bupropion**
  Authors: Thompson J, **Pappu A**, Pandhare A, Jansen M. 2015. Published in Biophysical Journal.
- **Bupropion is a Negative Allosteric Modulator at Serotonin Type 3A Receptors.**
  Authors: Pandhare A, **Pappu A**, Thompson J, Gagnon D, Blanton MP, Jansen M. 2015. In preparation
- **An orally active hepatocyte growth factor mimetic improves motor function in a 6-hydroxy-dopamine lesion model of Parkinson's disease.**
  Authors: Harding, et. al. 2014. Nature Medicine. To be submitted.
- **Comparative analysis of polymorphisms and variable transcriptional regulation in a novel strain of *Photorhabdus* and *Xenorhabdus* enteric bacteria.**
  Authors: Hendrickson, Christopher, Mandadi, N., **Pappu, A.,** and Amit Dhingra. 2014. Genome Biology. Published.
- **Genome sequences of *Photorhabdus luminescens* and *Xenorhabdus* strains isolated from entomopathogenic nematodes from India**
  Authors: Nagesh M, Christopher A. Hendrickson, Savithri H S, Nikhita R. Pai, Saleem Javeed, Thippeswamy R, Abraham Verghese, Anil Rai, **Aneesh Pappu,** Geetha Nagaraj and Amit Dhingra American Society of Microbiologists. 2014. Published.
- **Complex Modulation of the $GABA_A$-$\alpha_1\beta_2\gamma_2$ Receptor Function by Bupropion.**
  Authors: Jeremy M. Thompson, **Aneesh Pappu**, Akash Pandhare, Michaela Jansen. Presented at the Annual Biophysical Society Meeting in Baltimore, MD, February 7-11, 2015.