Pranav Ballaney

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Education

Birla Institute of Technology and Science, Pilani — Goa, India
Master of Science in Biological Sciences — *Aug. 2018 – May 2023 (expected)*
Bachelor of Engineering in Computer Science and Engineering
Cumulative CGPA: 9.25/10

Delhi Public School, Indira Nagar — Lucknow, India
All India Senior Secondary Certificate Examination — *Graduated May 2017*
Percentage: 89.4%

Work Experience

Debian — May 2020 – August 2020
*Student Developer under **Google Summer of Code 2020*** — *(Link)*

- Worked on quality assurance and continuous integration of applications in life sciences and medicine.
- Designed test suites for over 40 applications in bioinformatics, performed bug fixes and added new packages to the Debian operating system.

Projects

iGEM Competition 2020, BITS Goa — November 2019 – November 2020
Software Team Lead — *iGEM WikiSync | iGEM Wiki Starter Pack | Project Website*

- Awarded the **Gold Medal** along with two Special Prizes for the **Best Software Tool** and the Best Composite Part at the International Genetically Engineered Machines Competition.
- Developed Python and Node.js software to help iGEM teams build their websites and posters. Adopted by several teams throughout the competition season.
- Designed and developed a website for the project and worked under the supervision of Dr. Sumit Biswas on reduction of post-harvest losses in sugarcane, by using genetically engineered bacterial systems.

Research Experience

CSIR-Institute of Genomics and Integrative Biology — May 2020 – June 2020
Research Intern

- Using the ProDy Python library, analysed interactions between the SARS CoV2 spike glycoprotein and the human ACE2 receptor, under the guidance of Dr. Lipi Thukral, Computational Structural Biology Lab.
- Used D3.js to build visualizations to quantify these interactions as comparative force-directed graphs.

Study Oriented Project — January 2020 - April 2020
Applied machine learning techniques to tissue-specific re-evaluation of the efficacy of MicRoOn in identifying miRNAs associated with cancer, under the supervision of Dr. Sumit Biswas.

Certifications

Deep Learning Specialization — May 2019
deeplearning.ai on Coursera — *(Certificate)*

Technical Skills

Languages: Python, C, C++, Java, HTML, CSS, JavaScript, Bash
Frameworks: Flask, jQuery, NumPy, Pandas, Scikit-Learn, ProDy, D3.js
Bioinformatics: Protein modelling, docking and secondary structure prediction

Relevant Courses

Biology: Biochemistry, Microbiology, Cell Biology, Molecular Biology, Bioinformatics and Genetics, Recombinant DNA Technology, Animal Physiology
Mathematics: Mathematics I (Multivariable and Vector Calculus), Mathematics II (Linear Algebra and Complex Analysis), Mathematics III (Differential Equations), Probability and Statistics
Computer Science: Object Oriented Programming, Discrete Structures for Computer Science, Logic in Computer Science

Other Experience

Peer Mentor as a part of the Peer Mentorship Program at BITS Pilani, helping students navigate through college and looking after their academic and personal interests.

Scholarships and Awards

- Received institute scholarship at BITS Pilani for each semester in college.
- Received a Letter of Appreciation from Union Minister of Education for obtaining a CGPA of 10 in 10th Standard Board Examinations.

Extra-Curricular Activities

- Core member at Synchronoise, the BITS Goa a cappella club.
- Core member at Srutilaya, the BITS Goa classical music club.