Résumé
Sukrut Shishupal

PERSONAL DATA

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EDUCATION

Degree	Years	Institution (Area of Study)
MS	2022 - 2024	Department of Biomedical Informatics (Data Science Track), University of Utah, Salt Lake City, Utah, USA
M.Sc.	2014 - 2020	Department of Bioinformatics and Biotechnology, Savitribai Phule Pune University (Integrated B.Sc./M.Sc. program), Pune, Maharashtra, India
B.Sc.	2014 - 2020	Department of Bioinformatics and Biotechnology, Savitribai Phule Pune University, Pune, Maharashtra, India
College	2012 - 2014	Dr. Kalmadi Shamarao High School and Jr. College, Pune, India
High School	2002 - 2012	Dr. Kalmadi Shamarao High School and Jr. College, Pune, India

PROFESSIONAL EXPERIENCE

2023 - 2024	Teaching assistant to Dr. Ramkiran Gouripeddi, Department of Biomedical Informatics, for BMI 6018 (Introduction to Programming) and BMI 6016 (Biomedical Data Wrangling)
2022 – 2024	Research assistant to Dr. Mollie Cummins, College of Nursing, University of Utah Project coordinator, PCORnet RECOVER EHR project
2020 – 2022	Software Engineer, Automation Teknix, Pune, India

MAJOR PROJECT

Exploring Patterns of Interstate Telemedicine Using Visualization Framework

Work Done:

- Developed and implemented a comprehensive visualization framework for analyzing interstate telemedicine trends, utilizing advanced Python-based data plotting techniques to represent complex datasets effectively
- Executed intricate data wrangling processes to clean, organize, and interpret large volumes of telemedicine data, leading to insightful trend analysis and supporting the advancement of telehealth services.

Observational study of travel distance between participants in U.S. telemedicine sessions with estimates of emissions savings

Work Done:

- Utilized Google Distance API to calculate distances between client and provider locations in a telemedicine context, which enabled us to get the estimation of emissions savings which contributed to environmental sustainability efforts

M.Sc. Thesis (Jan 2019 – May 2019): Binding Affinity Prediction of Protein-Protein Complexes Using Machine Learning

Work Done:

- Developed scripts using Python and R to predict the biologically relevant hotspots using Python libraries such as Pandas, Numpy, Matplotlib, and Scikit learn
- Compared node and edge-based graphs, using a data set of 200+ protein-protein complexes; used machine learning to select 32 parameters crucial for comparison

Tech Stack: Languages: Python, R
Software used: NACEN, NAPS, PyMOL, RasMol, ClustalW, OrthoMCL

B.Sc. Project (Jul 2016 – May 2017): Synthesis and Characterization of Molecularly Imprinted Polymers for Solid-Phase Extraction of Biomolecules

Work Done:

- Synthesized magnetic and silica nanoparticles and created a polymer around them
- Characterized the nanoparticles along with Molecularly Imprinted Polymers (MIPs)
- Used different types of elution methods, such as solvent extraction, and physically assisted extraction, and compared the results

Tech Stack: XRD, DRS, chromatography, TLC

INTERNSHIP

Centre for Materials and Electronics Technology (Jun 2017 – Aug 2017)

Work Done:

- Invitro synthesis of tin dioxide (SnO2) nanoparticles and checking its activity for dye degradation and as an antibacterial agent
- Carried out methylene blue dye degradation using a mercury lamp
- The anti-microbial activity was checked using radial diffusion assay, which was carried out on wild-type E. coli strain.
- Characterization of nanoparticles was done using XRD and DRS, while the graph for dye degradation was plotted using Origin 8.

Computer Skills: Python, R, C++, SQL, PyMol

National Center for Cell Sciences (Aug 2019 – Sept 2020)

Work Done:

- Converted the K-shuff program from FORTRAN to Python-based for a UI environment
- The program was used to identify spatial clustering in the dataset based on K- function.

Computer Skills: Python, SQL

SCIENTIFIC PUBLICATIONS

Journal of Medical Internet Research: Mollie Cummins; **Sukrut Shishupal**; Bob Wong; Neng Wan; Jace D. Johnny; Amy Mhatre-Owens; Ramkiran Gouripeddi; Julia Ivanova; Triton Ong; Hiral Soni; Janelle Barrera; Hattie Wilczewski; Brandon M. Welch; Brian E. Bunnell

Observational study of travel distance between participants in U.S. telemedicine sessions with estimates of emissions savings, DOI: 10.2196/53437

CONFERENCE PRESENTATION

1) DELPHI symposium: **Sukrut Shishupal**, Ramkiran Gouripeddi, Bob Wong, Julia Ivanova, Brian E. Bunnell, Brandon M. Welch, Mollie R. Cummins
   Exploring Patterns of Interstate Telemedicine Using Visualization Framework
2) Data Science Day 2023: Mollie R. Cummins; Ramkiran Gouripeddi, Jackson Barlocker, **Sukrut Shishupal**, Mary Beth Scholand
   Data Science and Teamwork for Understanding PASC: PCORnet™ RECOVER EHR

ACTIVITIES

- Graduate student representative at the Department of Biomedical Informatics
- Reviewed incoming graduate student's applications for Fall 2023 and Spring 2024 as a part of admission committee
- Treasurer and marketing strategist at the Indian Students Association, a student organization at the University of Utah
- Oversaw administrative management of the symposium on protein folding titled 'Unfolding the Secrets from Nature' at Savitribai Phule Pune University, 2017, skillfully allocating and managing expenses to ensure a successful event.
- For five years, captained the department football team and volleyball team
- Won the intra-college football as well as volleyball matches three times in a row at the college fest
- Volunteered with a local trekking group and got the 'O – Outstanding' grade for being an excellent volunteer
- Participated in a one-week workshop on biological science, training middle school pupils on pour plate and spread plate techniques, observing micro-organisms under the microscope, and maintaining cultures. This project won 1st place, and I got the 'Best Instructor Award.'
- Assisted in editing books (extra reading material) on physics, chemistry, and biology experiments for 'Dnyan Prabodhini,' an institute working in the field of education, which later published them

AWARDS AND ACHIEVEMENTS

- Highest marks in school in Algebra and Biology in the grade X state board examination
- Highest marks in Biology in grade XII state board examination in the junior college
- Won a Gold Medal in a state-level skating competition in grade VIII; hence, qualified for the nationals and stood 5th overall