Ankit (Andy) Kapoor

Aspiring Engineer

Info

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Project Portfolio
https://andyk99.github.io/Portfolio/

Education

August 2021 - August 2024
Concordia University Irvine: B.S.
Major: Biochemistry
Minor: Computer Science

August 2024 - May 2026
Duke University: M.S.
Materials Science & AI In Materials

Expertise

- 3D Printing (mSLA, FDM)
- Statistical Analysis and Tests
- Linux, CLI, Bash, Shell, Python, C#, R
- Data Processing, Visualization
- Research & Development
- Sequence Analysis
- Protocol Design
- Critical Thinking
- Eager Learner
- Interdisciplinary
- Leadership & Management

Aspiring materials scientist and engineer, bioinformatics and software development enthusiast with proficiency in data analysis, data visualization, Linux, Python, and web development tools. My collegiate background in computer science and biochemistry, and professional experience has taught me data analysis skills, particularly in processing and visualizing complex datasets with R. I have demonstrated leadership in organizing events and managing project development, and have been recognized for academic excellence through prestigious awards. My research contributions span computer architecture, computational biology, molecular biology, and environmental studies.

Related Experience

September 2023 - Present
Southern California Coastal Water Research Project | Costa Mesa
Bioinformatics Student Employee

- Multiple sequence analyses using Linux-based QIIME 2 software for a publication on Environmental DNA studies; statistical analyses of results
- Data Visualization
- Created Python-based scripts using NCBI Entrez Programming Utilities for querying and downloading custom sequence & taxonomic data in Linux servers.
- Used rCRUX to create custom sequence reference libraries.
- Developed an HTML-based website to visualize study sites and enhance data accessibility.

May 2023 - December 2023
Concordia University Irvine
Computer Science Laboratory Researcher

- Conducted research and development on the university's autonomous drone project.
- Used CAD design and mSLA 3D printing to create support/mounting parts for components such as the camera, flight controller, and antenna.
- Tested optimal operating conditions and compared software for manual control of the drone.

January 2023 - September 2023
Concordia University Irvine
Molecular Biology Laboratory Manager

- Maintained molecular biology lab space and assisted with lab setups for classes.
- Stored data, and analyzed sequence data
- Worked through site-directed mutagenesis studies.
- Created bacterial stocks and stock plates.
- Performed growth assays, primer design, sequence analysis, and gel electrophoresis (DNA and Protein), Sanger sequencing, Qubit fluorometer quantification, and custom protocol design, maintained media stocks and performed machine maintenance.
- Assisted students with thesis projects.

Related Projects

- Autonomous Drone, Computational Modeling, Molecular Biology Undergraduate Research
- Gaze Data Time Series Autocorrelation Analysis in R
- Data Analysis and Interpretation in R
- Statistical Tests in R
- Data Validation Checks for Environmental DNA Experiments
- State COVID Population Data Modeling and Visualization
- River Sensor Current Flow Data Visualization
- Markov Chain Text Generation
- Sorting Algorithms (Data Structures)
- Monte Carlo Circle Area Prediction
- Playfair Cipher Encryption and Decryption Algorithms (Python)
- Numerical Analysis Convergence Algorithms (Python)