Satchit Kulkarni

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Education

University of Michigan   Expected May 2026
Bachelor of Science in Computer Science and Data Science   *Ann Arbor, MI*
- **GPA:** 3.9/4.0
- **Courses:** Data Structures and Algorithms, Foundations of Computer Science, Programming and Introduction to Data Structures, Discrete Math
- **Activities:** Undergraduate Research Program (UROP), Bioinformatics Club (GIDAS), UM Mentorship Program

Utica High School   Graduated June 2023
Mathematics, Science and Technology Focus   *Utica, MI*
- **GPA:** 4.27/4.0   **SAT:** 1510
- **Relevant Courses:** Calculus I and II, Physics, Chemistry, Biology, Biotechnology, Computer Science, Statistics

Experience

The Kwan Lab, University of Michigan   September 2023 - present
Bioinformatics Research Assistant   *Ann Arbor, MI*
- Active member of the **Bioinformatics** team at the Kwan Lab, involved in undergraduate research with neurological gene data from laboratory mice-based experiments.
- Leading independent data analysis research reviewing **differential gene expression** amongst mice from different control groups in various previous experiments and mapping possible sources of correlations.

GIDAS Bioinformatics Club   September 2023 - present
Spatial Transcriptomics Programmer   *Ann Arbor, MI*
- Explored the exciting field of spatial transcriptomics as it relates to gene expression using data analysis software, such as **Python, R, Numpy, Pandas, Seaborn, and Google Colab Notebooks**.

Crevolution Robotics   September 2020 — June 2023
Programming Lead & Mentor   *Sterling Heights, MI*
- Oversaw the ground-up software development of competitive, award-winning FIRST Robotics Competition robot.
- Spearheaded the development of an instructional platform to teach 12+ students about the basics **of Java Programming**, development of robot systems, autonomous behavior, and advanced test-driven development.
- Built new connections with local elementary schools, assisted in the establishment of 3 new 'rookie' elementary FIRST Lego Robotics teams, and succeeded in **winning regional and state level honors** for those teams.

Projects

Differential Gene Expression Bioinformatics / *R, Python, Jupyter, Bash, Pandas, Seaborn*   Ongoing Project
- Coded an automated system to run edgeR simulations on past gene data, along with visualizing the results in volcano plots, analyzing the significance of differential expression of genes, and performing over 35 different large gene dataset comparison to find statistical significance in the results.

Crevolution's Timesheet / *Python, Flask, SQL, SQLAlchemy, HTML/CSS, JavaScript, Git*   Dec. 2023
- Developed a **Flask** based web application that managed, analyzed, and visualized data from over 60 members of Crevolution Robotics team. The app featured a robust **Flask Authentication** system, storage of user data in **SQL**, interactive **JavaScript** charts, and **Jinja2** templating to bind the code together.

FRC Robot Code Development / *Java, OpenCV, VSCode, IntelliJ, Git*   Apr. 2023
- Led the ground up development of **Java** code for FRC applications, including **OpenCV** vision integration, quad-directional drivetrain development, and robot sensory feedback integration.

FRC Android App Development / *Java, Android, XML, Android Studio, Android Studio, Git*   Mar. 2022

Skills and Interests

Languages: C++, Java, Python, R, HTML, CSS, XML, Flask, SQL, SQLAlchemy

Technologies: Microsoft VSCode, JetBrains IDE's, Android Development, Git, Pandas, Seaborn, Matplotlib, Numpy, Jupyter Notebook, Flask, SQLAlchemy, Jinja2, Robotics Development, Web Hosting, Bash Terminal