Swarad Ganesh Gat

sgat@cs.stonybrook.edu | LinkedIn | https://swaradgat19.github.io/ | +1 (848)-234-8644 | Stony Brook, NY

EDUCATION

Stony Brook University — **Stony Brook, New York**
Master of Science in Computer Science — **May 2024**
Relevant Courses : Data Visualization, Operating Systems, Data Science Fundamentals

Maharashtra Institute of Technology - WPU — **Pune, India**
Bachelor of Technology in Computer Science and Engineering (CGPA: 9.13/10) — **July 2022**

SKILLS & INTERESTS

Language : Python, JavaScript, TypeScript, C++, Java, C, R, SQL, PHP, MATLAB
Frameworks and Libraries : Django, Flask, Node.js, React, REST, D3.js, AJAX, HTML, CSS, Plotly, Dash, Grafana
Databases : MySQL, SQLite, PostgreSQL, MongoDB, Firebase
Tools and IDE : Git, Docker, AWS, Kubernetes, Tableau, PowerBI, VS Code, Anaconda, Excel

WORK EXPERIENCE

The Research Foundation for SUNY (Link) — **Stony Brook, New York**
Senior Research Aide — **May 2023 - Present**

- Developed and deployed **Python package** '**WSInfer'** designed for efficient tumor and lymphocyte detection
- Employed **CI/CD pipelines** for seamless code **deployment,** engineered robust **Python scripts** for feature testing
- **Parallelized** the generation of **GeoJSON** results over multiple cores, **speeding up** execution time **by upto 25%**
- Project funded by **National Institutes of Health (NIH)** and various other **State** and **National Grants**
- ***Technology:*** *Python, Docker, PyTest, Git, Github Actions,QuPath, Auto*

Talentserve (Link) — **Mumbai, India**
Software Development Intern (Lead) — **Jan 2021 - Jun 2021**

- Developed interactive social networking website to facilitate seamless exploration of information for a user base of **100,000+ students** and **1,000+ companies** using Django
- Implemented an **AI-powered chatbot** using Dialogflow, empowering users to obtain insights and answers to FAQs through an intuitive conversational interface, increasing **user engagement by 20%**
- Constructed the company database using **MySQL**, developed **robust procedure**s and **triggers** to maintain integrity of database. Regularly **deployed** project ensuring smooth execution and availability for end-users.
- ***Technology****: Django, Bootstrap, SQLite, MySQL, Jinja, JavaScript, D3.js, HTML, CSS*

PROJECTS

MedalMosaic: A Data Exploration Tool (Link**)** *d3.js, Flask, JavaScript, Bootstrap, JQuery,HTML, CSS*

- Constructed extensive dashboard containing interactive charts to analyze **120 years** of Olympics data of over **200k athletes** using **Flask** and **d3.js** to demonstrate global participation patterns, athlete & country performance over time
- Built efficient **Python scripts** for processing complex data, employed **dimensionality reduction** methods to compare performances of countries, athletes, etc.
- Crafted dynamic charts, incorporating advanced brushing & filtering features for comprehensive **data analysis**

Detection of Problematic Lyrics in Music (Link) *Python, BeautifulSoup, Sklearn, NLTK, Tableau, Tensorflow, Pytorch*

- Implemented efficient web scrapers to build **novel dataset** of violent and abusive lyrics, **streamlined** process of annotation through **automation** by leveraging exhaustive list of keywords.
- Successfully **classified 500+** popular song lyrics with ML/DL models like SVM, Naive Bayes and LSTM to achieve **87% accuracy. Analyzed** songs from 2010-2020, giving insights into **region-wise streaming**, **crime rates, etc.**

Surgical Skill Prediction using Unsupervised Segmentation (Link**)** *Python, OpenCV, PyTorch, Sklearn*

- Improved tool segmentation using **optical flow cue** as pseudo-label for the unsupervised segmentation
- Performed surgical skill prediction using improvised segmentation results and improved **accuracy by 20%**

PUBLICATIONS

- "N. Abhange, S. Gat and S. Paygude, "**COVID-19 Detection Using Convolutional Neural Networks and InceptionV3**," 2021 2nd Global Conference for Advancement in Technology (GCAT), Bangalore, India, 2021, pp. 1-5, doi: 10.1109/GCAT52182.2021.9587744." (Link)