SOHAM BISWAS

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EDUCATION

- Bachelor's in **Computer Science and Engineering** | *Institute of Engineering and Management, Kolkata* | CGPA: 9.33 | **2018 - 2022.**

TECHNICAL SKILLS

- **Programming Languages:** Python, C/C++, Java, JavaScript, Go.
- **Frameworks:** Qt, CUDA, VTK, PyBullet, PyTest, Flask, Django.
- **ML Frameworks:** Tensorflow, SciPy, Keras, Numpy, Pandas, Matplotlib, Spark.
- **Hardware:** Arduino, nodeMCU, Raspberry Pi, Ardupilot, Pixhawk.
- **Database:** MySQL, PostgreSQL.
- **Tools:** Git, GitHub, Travis-CI, Gitlab-CI, JIRA.
- **Platforms:** Linux, Windows.

EXPERIENCE

CERN (Conseil Européen pour la Recherche Nucléaire) **Geneva, Switzerland**
Software Engineer (Internship) *Mar 2021 to April 2022*

- As a **Software Engineer** intern at CERN, I developed a complex graphical application tool to develop, test, and diagnose equipment throughout CERN's accelerator complex in python with the Qt framework by successfully delivering fundamental pieces of the application such as feature-full plotting widgets with bi-directional data binding, maintaining good UI responsiveness under high data volumes/rates and integrating technical and functional constraints into the software to provide rich user experience. This project enabled the physicists and operators at CERN with a user friendly graphical application which helped improve their efficiency compared to working with complicated command line tools.
- Technologies used: Python, PyQt, pyqtgraph, pytest-qt, Numpy.

Google Summer of Code 2020 - Python Software Foundation **Remote, India**
Student Developer (Open Source Program - Internship) *Mar 2020 to Sept 2020*

- As a python developer, I worked on an open source python graphics library FURY where I developed optimized Virtual Reality ready 2D and 3D graphical user interfaces from scratch via graphics primitives and provided physics engine integration with pyBullet. More information regarding my weekly progress can be found at the official Python Software Foundation blogs. My work benefited the organisation with additional UI components and a fully documented physics engine integration.
- Technologies used: Python, PyBullet, Numpy, VTK. | Project Link | Final Work Report

Indian Institute of Technology, Ropar **Ropar, India**
Research Software Engineer Intern (Internship) *June 2019 to August 2019*

- As a Research software engineer intern, I developed a complex graphical application to generate Personalised Summaries of crowd-sourced articles to end-users by implementing Eye Gaze Tracking, the graphical user interface and the complete flow and integrity of the application. This work allowed the end users to generate their own personalised summary of the content being browsed during their current session.
- Technologies used: Python, Tensorflow, Numpy, PyQt. | Certificate link.

Innovation Entrepreneurship and Development Cell (IEDC) **Kolkata, India**
Researcher (Part-time) *December 2018 to Mar 2021*

- As a researcher I worked on various projects but the most noteworthy was *Malicious URL Detector*. I developed a system layer proxy that provided protection against malicious URLs in real-time with the help of Logistic Regression and custom filters based on Cyber-Security concepts such as character entropy, DNS spoofing etc. This project helped negate false positives on various urls falsely flagged malicious by database based url detectors.
- Technologies used: Python, sockets, scikit-learn.

OPEN SOURCE AND VOLUNTEERING

- **Open Source Contributions:** Fury, AnitaBorg, CodersRank, thecodefoundation, linux-kernel, Sanscript India, Appwrite.
- **Google Summer of Code 2021 Mentor:** Python Software Foundation (FURY).
- **Google Developer Student Club IEM**: Machine Learning Team Lead and Winter of Code Mentor.

PUBLICATIONS

FURY: Advanced scientific visualization

- **Publication:** The Journal of Open Source Software | **DOI:** 10.21105/joss.03384 | Publication Link

OTHERS

- **Language skills: English(Fluent)**, Hindi(Fluent), Bengali(Native), French(Basic)
- Received Gold Medal Award for best student performance and impactful contribution to Open Source and Open Science.
- Finished 2nd Runner's up in inter college line follower robot competitions.