Shubham Sharma

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Personal Statement

- Aspiring software engineer with a passion for multimedia processing and a strong foundation in software development. Eager to leverage my academic background and internship experiences to contribute to innovative multimedia projects.
- Committed to growing my technical skills, gaining hands-on experience and supporting the development of cutting-edge video processing systems in a dynamic and collaborative environment.

Education

Australian National University, Australia
Feb 2023 - Present

Master of Computing
Relevant Coursework: Java, Android Programming, Discrete Math, Computer Vision, Databases

Guru Gobind Singh Indraprastha University, India
Feb 2023 - Present

Bachelors in Computer Science and Engineering
Relevant Coursework: Artificial Intelligence, Algorithms Design and Analysis, Software Engineering, Operating Systems, Web Development, Machine Learning, Image and Video Processing

Skills Summary

Technical Skills
Programming Languages: C/C++, Python, Java, JavaScript, Rust, SQL
Technologies & Tools: GStreamer, WebRTC, FFmpeg, Pytorch, AWS, Docker, d3.js, Flask, PowerBI

Soft Skills
Team Collaboration: Proven ability to work effectively with cross-functional teams to achieve project goals.
Communication: Strong verbal and written communication skills for clear and effective collaboration with team members and stakeholders.
Problem-Solving: Excellent problem-solving skills, capable of identifying issues and implementing innovative solutions.

Work Experience

XtreamCompute, Canberra, Australia
Feb 2024 - Present
Software Engineering Intern

- Developed and integrated a plugin for the server pipeline, enabling dynamic adjustments to streaming parameters such as bitrate and frames per second, resulting in a 20% improvement in streaming quality.
- Efficient packet transmission from server to client and reducing the frame and packet loss in the process.
- Enhanced a cloud gaming platform, achieving a 30% reduction in latency through their proprietary technology.
- Python, Rust, GStreamer, WebRTC, C, C++, Docker, AWS

Australian National University, Canberra
Jul 2023 - Present
Data Project Intern

- Successfully automated data collection pipelines for the College of Health and Medicine department, increasing data acquisition efficiency by 40% and accuracy by 30%.
- Utilised Python, along with libraries such as Beautiful Soup, to develop scraping scripts and data processing tools, reducing manual data gathering time by 50% .
- Collaborated closely with cross-functional teams to identify data requirements and implement solutions, achieving a 95% success rate in meeting project objectives.
- Python, PowerBI, Excel, Beautiful Soup

Anveshan Foundation (IGDTUW), Punjab, India
Jun 2021 - July 2021
Research Intern

- In image colourisation, a subset of the COCO dataset is used, which includes 15000 images.
- The strategy used involves image-to-image translation using Conditional Adversarial Network, which utilises two loss functions: L1 loss and GAN loss. This method helps in solving the problem in an unsupervised manner (by assigning numerical values to the outputs, indicating how "real" they look).
- Python, Pytorch, scikit-learn

Sabudh Foundation, Punjab, India
Jul 2020 - Dec 2020
Data Science Intern

- In collaboration with the Punjab Traffic Police, India developed an interactive dashboard using the D3.js framework to enable the police department to visualise incidents over different time intervals and extract actionable insights.
- Developed a solution to extract vehicle information near traffic signals, optimising traffic light timing based on vehicle density to reduce waiting times for commuters and improve traffic flow by 80%.
- Python, scikit-learn, Yolo, d3.js, Javascript

Projects

- **GStreamer Plugin:** Developed a GStreamer pipeline to change the framerate of the video played on the screen. Achieved this without using any wrapper application. In-built negotiation of the capabilities of the video encoder and capsfilter element. Used Rust, GStreamer, Python, C.

- **Food Recipe Sharing App:** Built an android app which provides functionality such as login, authentication, storing and sharing food recipes Designing of the sharing feature which used AVL tree data structure to store the favourite recipe in real time and persistent stored once app closed to firebase database. Developed profile picture upload features in the app which enable the user to change the profile picture in real time. Used Java, Firebase, Data Structures and Algorithms.

- **Cara (Responsive E-commerce Website):** Designed and developed the "Cara" e-commerce website for clothing, featuring a responsive design optimised for large screens, medium screens, and small screens. Users can explore popular and featured products, making it accessible and user-friendly across various devices. Used HTML, CSS, Javascript.

- **Kisan Sarthi:** Actively participated in a collaborative team of three members to conceive and develop the "Kisan Sarthi" website, a pioneering solution for the farming community. The platform addressed critical agricultural challenges, including disease identification,crop recommendations, and macronutrient guidance. The project was a part of the prestigious Technothon 1.0 organised by the Department of Computer Science & Engineering, Amity University, Mumbai and exemplified our dedication to leveraging technology for the betterment of agriculture. Used scikit-learn, Python, Flask, and Machine Learning.

Extra Curricular and Volunteering Experience

THRAC Executive Member, Toad Hall, ANU
Feb 2023 - June 2023

- Coordinated and oversaw an exam tea gathering for hall residents.
- Planned a game night during the semester break for student enjoyment.

Shalem Pentecostal Church of God (Regd.)
March 2021

- As a Community Contributor, addressed various issues such as clothing and medicine distribution and assisted individuals by providing guidance.
- The community strives to enhance the lives of orphans, individuals with leprosy, slum dwellers, those struggling with alcoholism, and abandoned individuals.

Hack Nagpur - Central's India's Largest Community Hackathon
Dec 2020

- Developed a project within a new initiative called open innovation, designed for individuals who are unable to speak or hear.
- Designed a web app that enables individuals to communicate using sign language and gestures, with the app translating their expressions into on-screen text.

Achievements and Awards

- **ANU Chancellor's International Scholarship** Holder (50% Tuition Fee Reduction) (2023-2024)
- **Academic Excellence Award:** First Rank in bachelors (2020).
- Udacity Deep learning Nanodegree certified (2020).
- IBM Data Science Specialised Professional (2020).
- **Microsoft Technology Associate** (2019).

Referees

Mark Reed
CEO, XtreamCompute Pvt. Ltd
Contact will be provided on request

Natalie Chang
Senior Data Specialist, Australian National University, Australia
Contact will be provided on request