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# T G Ashwin Kumar

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## EDUCATION

### PSG College of Technology

*Bachelor of Engineering - Computer Science and Engineering*

**Oct 2020 - Present**  
*Coimbatore, Tamilnadu*

- CGPA (till Sem 7): 9.35/10
- Contributions: Student Supervisor - Network Maintenance Lab, Lead - Students Union Tech team, Technical Lead - Kriya 2023, Joint Secretary - CSEA (Dept. Association)

## SKILLS

### Languages

Python, C++, Java, Javascript, Typescript, Rust

### Frameworks/Libraries

Object Segmentation, Natural Language Processing, OpenCV, Flask, Pytorch, Flutter, No  
ReactJS, Django, OpenGL

### Tools

Git & Github, CMake, Figma

### Soft Skills

Research Formulation, Paper Drafting, Presentation Skills, Problem Solving,  
Agile Development, Leadership, Public Speaking, Documentation writing

## PUBLICATION

### A Framework for Smart CSS

**Dec 2022**

*International Conference on High Performance and Intelligent Computing 2022*

<https://www.scribd.com/document/662632177/A-Framework-for-Smart-CSS-TG-Ashwin-Kumar-ICHPIC-22>

- Received the **Best Paper Award** for outstanding presentation skills and innovative solution structuring.
- Drafted a publication on attempt to develop a smart CSS Framework with the help of **post-processors**.
- Covers various **CSS optimization techniques**, like minimization, lazy loading, Content delivery networks, preprocessing and finally, postprocessing.

### Strike Price Recommendations for NIFTY 50 Index Options

**Jun 2024**

*International Conference for Smart Systems for Electrical , Electronics,*

*Communication and Computer Engineering 2024 (yet to appear)*

<https://www.scribd.com/document/662632177/A-Framework-for-Smart-CSS-TG-Ashwin-Kumar-ICHPIC-22>

- Ideated and developed a **novel approach** to guide the investor on buy or sell decision for index options
- Achieved **63.22% accuracy in forecasting** index prices over two to ten-day windows, performing significantly better than existing baseline models

## WORK EXPERIENCE

### Oracle India. Pvt. Ltd.

**Jan 2023 - Present**

*Project Intern*

- Identified and drafted **SQL Procedures pertaining to Risk analysis** in Construction Intelligence
- Engineered new model features for existing PL/SQL based data pipelines
- Created cloud driven solution to create **private PIP artifactory** empowering the team in RCA environment

### Nunnari Labs Pvt.Ltd.

**Sep 2023 - Dec 2023**

*Data Science Intern*

- Developed an AI-based application for wedding photographers which groups photos by the people in it (using MTCNN and DeepFace) and also creates **Stable Diffusion powered albums** as end product
- Built NLP based solutions to **Question - Answering Systems** and Table-to-text solutions for PDF text analysis

- Improved existing ML solution that handles reconciliation process among asset reference data
- Introduced a research-driven systematic approach to "**Pattern analysis and Rule mining**" on reconciliation data specific to the company, which was **unprecedented** to the India ML Team
- Created a python based **Excel automation system** for the team to create extracts instantaneously on client's request.

## PROJECTS

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### **Kriya Core Team**

**Dec 2022 - Mar 2023***Core Member, Lead - Technical Team*<https://kriya.psgtech.ac.in/>

- Designed the official website of Kriya 2023, reaching to **40 educational institutes** and **3000+ students** all over the country, who enrolled in the event
- Created a data driven SaaS platform for the event management team towards smooth traversal of paperwork and easier transactions of payment.
- Redesigned the hosting services of inter college projects and created efficient microservices for event management

### **6MWT - Gaitwatch Tracking App**

**Nov 2022***React Native, TailwindCSS, Embedded Systems, Firebase*

- Developed a tracking application to the Gaitwatch developed by the **PSG CARES Organization**, for **PSG Institute of Medicinal Sciences and Research**
- Solely supervised on the system design, initial development using the proposed tech stack
- Beta testing on the Gaitwatch product for patients and data collection to Firebase database.

### **Research Conclave 2022**

**Mar 2022***Javascript, Typescript, React - TailwindCSS, TypeORM, PostgreSQL*<https://manuscript.psgtech.ac.in/>

- Created the official frontend SDK for the **Manuscript Submission Portal of Research Conclave 2022**.
- Contributed to the backend integration and assisted in the backend development
- Completed the whole site in crucial deadline of **two weeks**.

### **ltransf**

**Jul 2021***Python*<https://github.com/tgashwinkumar/ltransf>

- A Math library made using Python for Laplace Transforms.
- Implemented its own lexical analyzer and Parser for provided Mathematical expressions using **Shunting yard algorithm** which in turn converts the expression trees to respective Laplace transformation.

### **Basic Raytracer**

**Aug 2021***C++*<https://github.com/tgashwinkumar/raytracer-basic>

- Based on **Peter Shirley's Ray-tracing series**.
  - Intended to make a ray tracer **without the help of a low-level Graphics API**.
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