YUG AGARWAL
Backend Developer | AI, Computer Vision & Automation Enthusiast

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[Portfolio Website: https://helloyug.github.io/](https://helloyug.github.io/)

Professional Summary

Proactive **third-year Computer Science (AI)** student with experience in **backend development, research analysis, and business operations**. Skilled in **Python, C, Java, SQL, and DSA**, with hands-on contributions to **10+ automation** and **AI-driven tools and systems**. Built scalable tools using **OpenCV, MySQL, Tkinter,** and **Telegram API**, focusing on problem-solving and system design. Certified in **Digital Marketing, Python, Data Analytics,** and **Soft Skills** via platforms like **Google, CISCO,** and **NPTEL**. Known for strong work ethic, fast learning, and effective collaboration in technical and team environments.

Work Experience

- **Backend Developer at Tranquiex, Ghaziabad** **(May 2025 – Sep 2025)**
  - *Developed 4+ core backend modules, led 20+ testing iterations, and proposed 15+ future feature enhancements.*
  - *Collaborated with a team of 6, explored 3+ new technologies, and supported project planning and team coordination.*
- **Research Analyst Intern at Nebulyn, Ghaziabad** **(Oct 2024 – Apr 2025)**
  - *Conducted 15+ detailed market and competitor analyses to uncover trends and support strategic planning.*
  - *Delivered 10+ insight-driven reports from multi-source data, aiding key business decisions.*
- **Operations Intern at Medipol Pharmaceuticals Pvt. Ltd., Noida** **(Aug 2023 – Sep 2023)**
  - *Completed a 5-week internship, supporting 2+ major tender filings, order tracking, and process documentation.*
  - *Strengthened CorelDRAW skills by completing 8+ design tasks under expert guidance.*
- **Business Operations Support in Family Business** **(Apr 2023 – Aug 2023)**
  - *Created 50+ pricing spreadsheets with delivery, commissions, and distance-based calculations for e-commerce shift.*
  - *Handled 150+ product inventory and SKUs entries and optimized daily business data using advanced Excel features.*

Education

- **ABES Institute of Technology, Ghaziabad – 201009 (Pursuing)**
  Bachelors of Technology, Computer Science & Engineering, Specialization in Artificial Intelligence & Honors in Cyber Security
  Abdul Kalam Technical University (AKTU – formerly UPTU) | CGPA: 7.66/10
- **Bhai Parmanand Vidya Mandir School, Delhi – 110092**
  Intermediate: PCM with Computer Science in CBSE Board | Cleared with 76.2% in 2023
- **New Oxford Public School, Delhi – 110091**
  Secondary education: Home Subjects in CBSE Board | Cleared with 91.0% in 2021

Technical Skills

- **Programming Languages:** Python, C and Java
- **Database Management:** MySQL, SQL, SQLite
- **DSA:** Good foundation in Data Structures and Algorithms
- **Design Tools:** Canva, Adobe Express, CorelDraw (Basic)
- **Version Control:** Git
- **Productivity:** Office 365 (Excel, Word, PowerPoint)
- **Frameworks & Libraries:** OpenCV, MediaPipe, PyautoGUI, NumPy, Pandas, Tkinter, Matplotlib, Django

Projects

- **HandScope – AI-Based System Control via Hand Gestures** *(Python, MediaPipe, OpenCV, PyAutoGUI)*
  Developed a hand gesture-controlled automation tool to perform 7+ system tasks (e.g., volume control, mute/unmute, app launch, etc.) using real-time computer vision with over 90% accuracy.
- **RoomIQ – Intelligent Room-Based Energy Control** *(Python, OpenCV, Raspberry Pi, Arduino, Firebase)*
  Designed an AI-enabled classroom automation system that detects occupancy in real time, intelligently controls lights and fans, reduces unnecessary energy usage, and ensures smooth, autonomous operation.
- **Telegram Bot for Billing & Stock Management** *(Python, MySQL, Telegram API)*
  Created a Telegram bot handling 100+ billing and inventory queries, integrating MySQL & Excel to streamline backend operations. Enhanced small business workflow efficiency by 50% through automated menu-driven chatbot interactions.
- **Canteen Management System** *(Python, MySQL)*
  Designed a robust system to manage 200+ orders, automate inventory updates, and generate real-time bills. Demonstrated GUI and backend development skills using Tkinter and MySQL.

- **MySQL Backup & Recovery Utility** *(Python, MySQL)*
  *Developed a **1-click utility** for text-based MySQL backups with database/table selection; achieved **98%+ recovery** success in test runs, simplifying disaster recovery.*
- **Various Small Computation, Automation, and Management Projects**
  *Built multiple utility tools including a **Late Comers Management System (Desktop & Web), Windows Login UI Replica, Cipher Tools for message Encryption-Decryption, Sound Swap Tool,** and an **SQL Deletion Prank Tool**. Also explored data manipulation using **Pandas** and **NumPy**, showcasing versatility in building efficient, creative, and purpose-driven mini projects.*

Certifications

- The Fundamentals of Digital Marketing – Google
- Biometrics online course offered by NPTEL – TCS iON
- Master Data Management for Beginners – TCS iON
- Elements of AI – Minna Learn
- The Joy of Computing using Python – NPTEL
- Database Management System 1 – Infosys Springboard
- Developing Soft Skills & Personality – NPTEL
- Python Essentials 1 – CISCO Networking
- Data Science for Engineers – NPTEL
- Data Analytics with Python – NPTEL

Achievements

- **Finalist – Code-A-thon 4.0 (3rd Year Mini Project Competition)** *(Nov 2025)*
  *Reached the **Final Round** among **200+ teams** with **Project RoomIQ**, an AI-enabled smart classroom energy automation system.*
- **Internal Winner – Smart India Hackathon (SIH) 2025** *(Sep 2025)*
  *Declared **internal round winner** among **200+ teams**, shortlisted in the **Top 50** teams for **PS ID: SIH25002**, and selected to represent the institute for national-level SIH.*
- **Finalist – Ideathon 3.0 (2nd Year Mini Project Competition)** *(Jan 2025)*
  *Reached the **Final Round** among **200+ teams** with **Project HandScope**, an AI-based gesture-controlled automation system.*

Other Details

- **Position of Responsibility**
  - Elected **Class Representative (2nd & 3rd Year)** – Coordinated between students and faculty, ensuring smooth communication and representation of student concerns.
  - Elected **Innovation Ambassador & Student Co-ordinator, Institution's Innovation Council (IIC)** – Contributed to organizing **20+ innovation-driven activities** and fostering collaboration within a team of **30+ student members**.
  - **Registration Team Lead, Annual College Fest** – Led and managed a team of **12 members** to handle registrations for a fest with **3500+ footfall**, ensuring seamless operations and timely coordination.
- **Typing Speed:** 55 WPM+ with 98%+ Accuracy
- **Languages Known:** Hindi (Native Proficiency), English (Professional Working Proficiency)
- **Soft Skills:** Attention to detail, Communication, Problem Solving, Critical Thinking, Adaptability, Fast Learning, Teamwork & Leadership.