

# Owais Ali Khan

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## EDUCATION

### FAST NUCES, KARACHI

- BACHELORS OF SCIENCE IN COMPUTER SCIENCE, CGPA: 3.89

## ACHIEVEMENTS

- Gold Medallist ICPC Asia Topi Regional '24-25 (National 4th rank)
- Silver Medallist ICPC Asia Topi Regional '23-24 (National 8th rank)
- Ranked 531/4200, IEEE Xtreme Programming Competition 17.0 (Global 531st rank)
- Rector's List (Spring '22)
- Dean's List (Fall '21, Fall '22, Spring '23, Fall '23, Spring '24, Fall '24)

## SKILLS

### LANGUAGES

Python • C/C++ • Java •  
JavaScript/TypeScript • Dart

### LIBRARIES/Frameworks

Django • Flutter • NodeJS • ExpressJS •  
FastAPI • Bootstrap5 • Material UI •  
CMake • CUDA

### PRODUCTIVITY

Git • Linux (Debian-based) • Zsh/Bash  
(Shell Scripting) • Vim • Markdown •  
LaTeX • Figma

### DATABASES

MySQL • PostgreSQL

### DEVOPS

Docker • Jenkins (CI/CD)

## VOLUNTEERING &

## COMMUNITIES

- Student Lab Assistant, Data Structures and Algorithms (Fall 2024, Fall 2025)
- ACM Devday'25 Mentor Technology (January '25 - April '25)
- Procom'24 Co-head CS Competitions (January '24 - March '24)
- IEEE Membership (Dec '23 - Dec '24)

## EXPERIENCE

### SECURITI AI | SOFTWARE ENGINEER INTERN

June '24 - Aug '24 | Hybrid

- Engineered a high-performance infrastructure for matching large-scale *regular expressions* using state-of-the-art tools i.e. **Intel Hyperscan** and **Google RE2J**, resulting in performance speedups of 2-3 factors of magnitude.
- Performed a feasibility analysis for integrating notable open-source tools i.e. **ANTLR4** into the existing *content classification* workflow.

### RETROCAUSAL AI | APPLIED RESEARCH INTERN

Mar '24 - June '24 | Remote

- Developed automated workflows and *RESTful* API endpoints for reporting and exporting internal data models using the **Django REST Framework**.
- Designed and implemented cloud-based (**Amazon S3**) solutions for *scalable* storage and retrieval of standardized data reports.

### LDP LOGISTICS | IT SUPPORT SPECIALIST

June '23 - Sep '23 | Onsite

- Built and deployed a full-stack *web application* (**Django** and **Bootstrap4**) for managing the status and location of electronic *inventory* owned by the company in local and overseas offices.
- Acted as the primary *IT solutions provider* and technical officer, supporting all in-house teams with *infrastructure, troubleshooting* and *system modifications*.

## PROJECTS

### POLARIS | HIGH-PERFORMANCE IMAGE PROCESSING

Fall 2023 | Parallel and Distributed Computing (Project)

- Designed and developed **Polaris**, a *parallelized* image enhancement program. **Polaris** performs standard image enhancement techniques (i.e. **Gaussian filtering** and **Histogram Equalization**) in order to *sharpen* image quality and increase *contrast* in dark images.
- **Polaris** is written in **C++17** and uses the open-source *multiprogramming* framework **OpenMP** to utilize all available *CPU cores* for image processing.

### LDP ASSET MANAGER | FULLSTACK WEB APPLICATION

Summer 2023 | Full Stack Development

- Developed an *inventory management system* using **Django**, **MUI**, **JQuery**, **MySQL**, **Apache HTTP Server**, **Bootstrap4**
- The main function of this project is to act as a *web portal* that keeps track of all the inventory (assets, accessories, licenses, etc) held at all *LDP* offices.

### LLM TEXT DETECTOR | NATURAL LANGUAGE PROCESSING

Fall 2024, Spring 2025 | Final Year Project

- Title: **A Hybrid Approach to LLM-generated Text Detection**.
- Utilized a combination of *cross-perplexity* scores and a fine-tuned *T5* transformer model to perform multiclass classification on the originality of input text, i.e. Human or AI-generated (**GPT-4**, **Gemini Flash**, **Claude Haiku**).
- Achieved a 94% **F1-score** on our curated dataset (7500 generations per class).