

# ARYAN JALOTA

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## Education

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### University

*Bachelor of Science in Computer Science, Minor in Statistics*

*University of Texas At Austin*

- Courses: Intro. to Programming, Data Structures and Algorithms, Discrete Mathematics, Elements of Statistics (Concentration in R Programming)

## Experience

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### Depository Trust & Clearing Corporation

**June 2025 – Aug 2025**

*Internal Audit Development IT Intern*

*Coppell, TX*

- Developed a desktop application to automate data extraction from financial PDFs by identifying and analyzing repeating patterns using a Tkinter GUI; enabled users to snip tables or text, apply reusable templates, auto-detect similar content across pages, clean structured data, and export results to Excel—reducing manual reporting work by 10–15 hours per week
- Built a desktop application to record and export UI interaction tutorials, automating step-by-step screenshot capture with OCR-based text labeling, mouse/keyboard tracking, and an interactive Tkinter GUI; enabled users to annotate, reorder, and export steps into a structured, styled PDF—cutting documentation and training preparation time by 50–60% (saving 6–8 hours per tutorial)

### University Of Texas At Austin

**Aug 2024 – Present**

*AI Traffic Monitoring Research Assistant*

*Austin, TX*

- Developed an automated vehicle-detection pipeline using YOLOv8 segmentation and OpenCV, achieving precise, polygon-level contours for cars, buses, trucks, and motorcycles; streamlined data ingestion, inference, and visualization to export results in JSON/CSV/TXT formats and store annotated imagery for performance review
- Integrated the pipeline into AI-driven transportation research with Pandas dashboards and Matplotlib visualizations; reduced manual labeling by 90 % and enabled the team to generate statistically robust traffic counts and class-specific occupancy metrics to support grant proposals and conference publications

### University Of Texas At Austin

**Aug 2025 – Present**

*GI Sense Lab Research Software Engineer Assistant*

*Austin, TX*

- Developed and deployed an interactive research webpage using React, JavaScript, and HTML/CSS, showcasing generative AI results with audio playback, image rendering, and a user study interface for data-quality evaluation
- Coded Python scripts for remote sensing data collection, integrating geospatial APIs (latitude/longitude queries), Pandas, and Requests to automate imagery retrieval and preprocessing. Contributed to machine learning workflows by writing Python code with PyTorch, NumPy, and Matplotlib for dataset preparation, model training, evaluation, and visualization on the Texas Advanced Computing Center (TACC)

## Projects

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### Intelligent PDF Pattern Extractor

**Python | Tesseract OCR | Tkinter**

- Developed and deployed a desktop application to automate structured data extraction from financial PDFs, identifying repeating text and table patterns for efficient processing across multi-page documents
- Integrated Tkinter for the user interface, Tesseract OCR for text recognition, and Pandas for data structuring, enabling export to Excel and reusable template matching across similar documents

### AI-Powered Universal Web Scraper

**Python | Selenium | OpenAI GPT-4 API**

- Developed and deployed a smart web scraping tool that transforms any webpage into structured data using GPT-4 and dynamic user input
- Utilized Python, Selenium, and OpenAI API to extract custom fields from unstructured HTML and export to JSON/CSV/Excel

## Technical Skills

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**Languages:** Python, Java, HTML, CSS, JavaScript, R

**Developer Tools:** Blender, Git, GitHub, Streamlit, Jupyter Notebooks, FFmpeg, Tkinter, VS Code, PyCharm, Virtual Environments

**Libraries/Frameworks:** React, Selenium, OpenAI API (GPT-4), Pytesseract, MediaPipe, OpenCV, scikit-learn, TensorFlow, Matplotlib, YouTube-DL, pandas, fpdf, ReportLab