

AutoCAD Tasks & Instructions — CodeAlpha

AutoCAD — Internship Overview

This internship program provides real-world experience in **AutoCAD and Computer-Aided Design**. CodeAlpha is a leading software development company committed to innovation and excellence across technical domains. The internship offers students hands-on experience in drafting, 2D/3D modeling, and industry-standard design practices using AutoCAD. Interns will benefit from expert mentorship, practical assignments, and a collaborative learning environment.

Internship Perks

- Internship Offer Letter
 - Completion Certificate (QR Verified)
 - Unique ID Certificate
 - Letter of Recommendation (based on performance)
 - Job Opportunities / Placement Support
 - Resume Building Support
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Instructions for Interns

1. Share your internship status on **LinkedIn**, tagging **@CodeAlpha**.
 2. Complete the **assigned projects** within the mentioned time frame.
 3. Upload your complete file to **Google drive**:
`CodeAlpha_ProjectName`
 4. Post a **video explanation** of your project on LinkedIn.
 5. Submit your completed task using the **Submission Form**.
 6. **Complete any 3 or 2 out of the 4 tasks** listed below (from your domain).
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AutoCAD Task List

(Complete any 2 or 3 of the following tasks)

TASK 1: Language Translation Tool

- **Create a user interface** where users can enter text and select source & target languages.
 - **Use a translation API** like Google Translate API or Microsoft Translator to process the input.
 - **Send the text** to the API and get the translated response.
 - **Display the translated text** clearly on the screen.
 - **Optional:** Add a copy button or text-to-speech feature for better usability.
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✓ TASK 2: Chatbot for FAQs

- **Collect FAQs** related to a topic or product (questions and their answers).
 - **Preprocess the text** using NLP libraries like NLTK or SpaCy (tokenize, clean, etc.).
 - **Match user questions** with the most similar FAQ using techniques like cosine similarity or intent matching.
 - **Display the best matching answer** as a chatbot response.
 - **Optional:** Create a simple chat UI for user interaction.
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✓ TASK 3: Music Generation with AI

- **Collect MIDI music data** to train your AI model (classical, jazz etc.).
 - **Preprocess the data** into note sequences suitable for training (e.g., using `music21`).
 - **Build a deep learning model** using RNNs (like LSTM) or GANs to learn music patterns.
 - **Train the model** on the dataset to generate new music sequences.
 - **Convert generated sequences to MIDI** and play or save them as audio.
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✓ TASK 4: Object Detection and Tracking

- **Set up real-time video input** using a webcam or video file (OpenCV).
 - **Use a pre-trained model** like YOLO or Faster R-CNN for object detection.
 - **Process each video frame** to detect objects and draw bounding boxes.
 - **Apply object tracking** using algorithms like SORT or Deep SORT.
 - **Display the output** with labels and tracking IDs in real time.
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Important Note

Internship Completion Criteria:

To be eligible for the internship certificate, participants must complete a minimum of **two or three tasks**. Submitting only one task will be considered **incomplete** and certificates will **not** be issued in such cases.



Submission Details

A submission form will be shared in your respective **WhatsApp group**. You are required to submit your completed task only through that form. Please follow the instructions mentioned in the form carefully to ensure your submission is accepted.



Contact Information

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