Hamza Ali Khalid

As a versatile software developer, I bring a wealth of experience from developing automated systems to creating AI-powered applications across technologies like MERN, Java, Python, and PHP. My work spans enhancing communication with real-time translation tools, streamlining operations with efficient management systems, and innovating with AI to improve content accessibility. Passionate about technology and driven by innovation, I excel in delivering impactful solutions and exploring new frontiers in software development.

Lahore, Pakistan
Born 13/10/1996

+923057777911
hamzaig@yahoo.com | **LinkedIn** | **Github** | **Website**

TECHNICAL SKILLS

JavaScript (Over 7 years of project experience) | **Python** (4) | **Java**(2) | **TypeScript** (1) | **Node.js** (7) | **PHP** (1) | **React.js** (7) | **HTML5** (7) | **CSS3** (7) | SASS (2) | **Next.js** (4) | SSR (1) | **Redux** (5) | Bootstrap (5) | Material UI (3) | Firebase (1) | Jest (1) | Rest APIs (7) | Tesseract (2) | **SQL** (7) | **MongoDB(Mongoose)** (7) | **CI/CD** (3) | **Docker** (3) | **AWS [** Transcribe, EC2, S3, Translate, Polly, Lambda **]** (3) | **Git** (3) | **Cron** (1) | **Nginx** (6) | Linux (7) | Github (7) | Puppeteer (2) | Webpack (1) | ESLint (1) | **Stripe** (7) | **Twilio** (3) | PIL (1) | **Socket.io** (5) | **WS (Websocket)** (5) | **Google(OAuth 2.0, Vision, Translate, STT, TTS)** | Microsoft OAuth 2.0 | **FFMPEG** (3) | **Voice Cloning** | **OpenAI** | **PlayHT** | **Aspose API** | **assemblyai**

Credentials for testing All projects
email: hamzaig@yahoo.com
password: 123123123

WORK EXPERIENCE

09/2022 – Present

Senior Software Engineer (Remote)
LetzChat, Inc. California, USA

Project: Live Call Translation using Twilio
The Twilio Live Call Translation project leverages Twilio's communication APIs to facilitate real-time voice translation during phone calls, enabling participants to converse in their native languages while understanding each other seamlessly. This system combines speech recognition, machine translation, and text-to-speech technologies to convert spoken language into text, translate it into various languages, and then vocalize the translated text in real-time. Designed to minimize latency and maximize the accuracy of translations, the project addresses key challenges such as handling diverse accents and dialects, and generating natural-sounding speech. This solution is especially beneficial for international businesses and multilingual communities, enhancing communication and collaboration across global platforms.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS | WS | Socket.IO | Twilio | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | WebHook | AssemblyAI
Link : Incoming Call

Project: Video Dubbing and Voice Cloning System
The Voice Dubbing and Voice Cloning System is an advanced technology solution designed to automatically dub videos into different languages while replicating the original speaker's voice characteristics. This system uses state-of-the-art voice recognition to identify the speaker's gender and other vocal traits, then removes the original audio track from the video. Simultaneously, it employs voice cloning technology to generate a new voice that closely matches the original speaker's timbre and intonation, but speaks in the target language. The newly synthesized voice is then seamlessly integrated

back into the video, replacing the original audio. This automated dubbing process not only preserves the authenticity and emotional impact of the original performance but also significantly enhances accessibility for international audiences, making content consumable across different linguistic demographics without the need for subtitles.

Tech used: Python | React | MongoDb | Javascript | NodeJS | ExpressJS | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | OpenAI | AssemblyAI | PlayHT | FFmpeg | Voice Cloning

Link : **Voice Dubbing**

Project: Live Podcast Translation System

The Podcast Translation System is a dynamic solution designed to enhance global accessibility to podcast content by enabling real-time translation of dialogues into multiple languages. Utilizing advanced speech recognition technology, the system first transcribes spoken words from a podcast into text. This text is then instantaneously translated into the languages specified by the listeners, allowing all participants to understand and engage with the content in their native tongue. Moderators have the option to manually verify translations or use an auto-send feature to streamline the process. Additionally, the system supports interactive features where listeners can ask questions in their own language, which are then translated for both the speakers and other audience members. This setup not only broadens the reach of podcast broadcasters but also fosters a more inclusive and interactive listener experience across different linguistic groups.

Tech used: React | NextJs | MongoDb | Javascript | NodeJS | ExpressJS | WS | Socket.IO | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | AssemblyAI

Link : **Live Podcast Translation**

Project: Unite: Multilingual Real-Time Communication Tool

The Unite: Multilingual Real-Time Communication Tool is a dynamic system designed to facilitate seamless communication across different languages in real-time environments. This innovative platform allows a speaker to address an audience in their own language, while listeners receive the speech translated into their respective languages instantly. The system also supports interactive features, enabling participants to ask questions in their native languages, which are then translated for both the speaker and other attendees. Built using advanced speech recognition, real-time translation technologies, and a user-friendly interface, Unite bridges linguistic gaps in conferences, webinars, and meetings, making it an invaluable tool for international organizations, educational settings, and global events. This solution ensures that every participant can fully engage with the content in their preferred language, fostering more inclusive and effective communication.

Tech used: React | NextJs | MongoDb | Javascript | NodeJS | ExpressJS | WS | Socket.IO | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | AssemblyAI

Link : **Unite**

Project: Zoom Meeting Translated Captions System

The Zoom Meeting Translated Captions System is a sophisticated enhancement for Zoom live meetings, designed to provide real-time translated captions directly within the platform. This system captures the spoken content during meetings and uses advanced speech recognition technology to transcribe it into text. The text is then instantly translated into multiple languages selected by the participants, and the translated captions are displayed on the meeting screen. The integration of this technology into Zoom meetings improves accessibility for non-native speakers and facilitates more inclusive and effective communication across global teams. By bridging

language gaps, this system ensures that all participants can fully engage with the meeting content, regardless of their language proficiency.

Tech used: React | NextJs | MongoDb | Javascript | NodeJS | ExpressJS | WS | Socket.IO | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | AssemblyAI | FFmpeg | Zoom API | RTMP Server in NodeJs | Live Stream | Cron Job

Link : Live Zoom Meeting Translation

Project: Brightcove Live Stream Translated Captions via Wowza Stream Engine

The Brightcove Live Stream Translated Captions via Wowza Stream Engine project is designed to enhance the accessibility of live streaming content by providing real-time translated captions. Utilizing the Wowza Streaming Engine, this innovative system captures spoken language during live broadcasts, converts it into text, and then translates this text into multiple languages using sophisticated translation algorithms. The translated captions are then formatted according to the CEA-608 standard and embedded directly into Brightcove live streams. This feature ensures that live events are accessible to a global audience, breaking down language barriers and allowing viewers from different linguistic backgrounds to fully engage with the content in their own languages.

Tech used: React | MongoDb | Javascript | NodeJS | JAVA | ExpressJS | BrightCove | CEA 606 Captions Conversion | Wowza Stream Engine | FFmpeg | RTMP Server in Nodejs | WS | Socket.IO | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | AssemblyAI

Project: OpenAI ChatGPT Voice Assistant

The OpenAI ChatGPT Voice Assistant project utilizes the capabilities of OpenAI's ChatGPT, combined with Google Cloud's speech-to-text and text-to-speech services, to create an interactive voice assistant. This innovative application allows users to interact with ChatGPT using spoken language, receiving verbal responses in real time. The system effectively captures the user's voice input, converts it to text for processing by the ChatGPT model, and then converts the AI's textual responses back into spoken words using text-to-speech technology. This integration offers a seamless and intuitive user experience, making it accessible and convenient for a wide range of applications, from personal assistance to customer service, by enabling hands-free operation and natural language communication.

Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS | AWS Cognito | OpenAI | Google STT | AWS Transcribe | Google TTS | AWS Polly | Google Translate | AWS Translate | AssemblyAI | Socket.IO

Link : ChatGPT Voice Assistant

Project: Translator (Text, Document [docx,excel,pdf,pptx], Image, Website)

The Comprehensive Multilingual Translation Suite project is an advanced tool designed to facilitate seamless translation across various formats including text, documents (DOCX, PDF, Excel, PPTs), images, and websites. Utilizing OpenAI's GPT-4 technology, this system is capable of understanding and translating content in multiple languages with high accuracy. For documents, the suite parses and retains the original formatting during translation, ensuring that the output remains consistent with the source. Image translations are handled through OCR technology that extracts text from images before translating it. Website translation involves dynamically converting all readable text on a given webpage into the user's preferred language. This versatile solution simplifies the process of multilingual content management, making it invaluable for businesses and individuals working in international environments, where quick and reliable translation of diverse content types is essential.

Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS | Adobe API

Link : [Translator](#)

Project: Subtitle Generation and Translation Tool
The Subtitle Generation and Auto-Upload System automates the creation, translation, and embedding of subtitles for videos on platforms like YouTube and Vimeo. Using speech recognition to generate subtitles, the system translates them into multiple languages and securely uploads them using OAuth authentication. This streamlined process enhances accessibility and viewer engagement by making videos more inclusive to global audiences. Additionally, the system integrates Stripe for billing, providing a comprehensive solution for content creators aiming to expand their reach and accessibility.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : [Subtitle Translator](#)

12/2020 – 09/2022   **Software Engineer**
EmporionSoft Pvt Ltd, Lahore, Pakistan (Full-time)

Project: Auto Billing System
Engineered a Python-based system that automates billing processes by capturing barcode inputs, verifying bill details via OCR, and executing payment actions, streamlining the billing cycle.
Tech used: Python | Tkinter | pynput | pyttsx3 | PIL | pytesseract | pyautogui
Link : https://github.com/hamzaig/autoBilling

Project: Mr. Home Garage Door
Implemented an inventory management system using the MERN stack, optimizing stock tracking and management..
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : https://mrhomegaragedoors.ca/

Project: Rent Potential
Worked on backend development for a property rental system, facilitating efficient property management with the MERN stack..
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : https://rent-potential-client.esipick.com/

Project: Imlaak
Focused on developing a classified property application, particularly enhancing search filters and integrating map-based pinpoints for property locations using the MERN stack.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : https://www.imlaak.com/

Project: CASA App
Contributed to the backend development of a social networking platform, incorporating features like real-time chat and newsfeeds with Node.js and Socket.io.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : Broken

Project: Cambridge Past Papers
Developed a PHP-based module to dynamically display past exam papers from a server, improving accessibility for educational resources.
Tech used: PHP | MySql | Javascript
Link : Broken

Project: FlanX

Contributed to a freelancing platform similar to Fiverr, focusing on user profile information entry using React, Node.js, Express, and MongoDB.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : Broken

Project: ERP System (SPRINTX)

Developed modules for attendance, employee management, and settings within a MERN-based ERP system, streamlining internal operations.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : Broken

Project: Political Pixel

Developed an application for scraping political campaign ad data from social media and Google, utilizing AWS services for data processing and analysis.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : https://politicalpixel.com

Project: Animal Management System

Created a comprehensive management system for animal care, including health and beautification modules, with the MERN stack.
Tech used: React | MongoDb | Javascript | NodeJS | ExpressJS
Link : Broken

10/2017 – 12/2020   **Full Stack Developer**
Fiverr (Project Base)

Project: Point of Sale (POS) System MVP

Developed a Minimal Viable Product (MVP) for a POS system using Java and Swing UI, showcasing a simple yet effective interface for sales transactions.
Tech used: Java | Swing GUI | MySql
Link : Broken

Project: LESCO Bill Scraper

Implemented a scraper in Python to automatically check bill payment status on the LESCO website using consumer numbers extracted from PDF files, enhancing efficiency in bill management.
Tech used: NodeJS | ReactJS | Puppeteer
Link : https://github.com/hamzaig/lesco-account-status-checking

Project: COVID Card Generator

Created a Python system for automating the transformation of government-issued COVID certificates into double-sided card formats for convenient physical handling.
Tech used: Python | PIL | PYPDF
Link : https://github.com/hamzaig/CovidVaccinationCertificateToCard

Project: Transaction Record System

Designed a client-side application for tracking financial transactions using local storage, enhancing payment management with a focus on received payments.
Tech used: NodeJS | ReactJS | MySql
Link : https://hamzaig.github.io/MoneyReceivingReport/

Project: HEIC to JPG Converter

Engineered a conversion tool for HEIC image files to JPG format, simplifying image handling across different platforms.
Tech used: NodeJS | NextJS | heic-convert
Link : https://www.heicinjpg.de/

Project: TikTok Video Download Application
Developed a user-friendly tool for downloading TikTok without watermark videos, enhancing content accessibility.
Tech used: NodeJS | NextJS | tiktok-downloader(github)
Link : https://www.ttbestvideo.com/

08/2014 – 09/2017	**Computer Operator** Telenor, Lahore, Pakistan (Full-time) **Role:** As a Computer Operator at a Telenor Pakistan franchise, I managed system operations, ensured data security, updated software/hardware, and provided technical support. Skilled in troubleshooting, system backups, and staff training, I contributed to maintaining optimal IT infrastructure efficiency and security.

EDUCATION

09/2018 – 09/2022	BSCS/ Bachelors, Computer Science NCBA&E ,Lahore, Pakistan

LANGUAGE SKILLS

English | Urdu | Punjabi | Hindi

HOBBIES

Programming |Poetry (Mostly Listening) | Gaming | Cooking