

## JIGDEN SHAKYA

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### Education

#### College of Science and Technology

Chukha, Bhutan

Bachelor of Engineering in Software Engineering

Phuentsholing,

July 2024 - July 2028

#### Samtse Higher Secondary School

High School Certificate – Science Stream

Samtse, Bhutan

Graduated: 2023

### Projects

#### College of Science and Technology (CST)

Student Developer

Phuentsholing, Bhutan

Aug 2024 - June 2025

#### 1. Duolingo Clone – Full Stack Learning App

- Built a quiz-based language platform using React/Next.js, Node.js/Express, and PostgreSQL.
- Implemented image-based quizzes with progress tracking, streak rewards, and dynamic feedback.
- Managed REST APIs and state with Zustand for a smooth user experience.

#### 2. Mini Siri – AI Voice Assistant

- Developed a web-based voice assistant using Flask, SpeechRecognition, and gTTS.
- Enabled real-time STT and TTS with lightweight endpoints and interactive Gradio UI.
- Modularized voice logic for reusability and clean integration.

#### 3. Laundry Management System

- Designed a normalized PostgreSQL schema for orders, machines, services, and users.
- Used stored procedures, triggers, and views for automated billing and updates.
- Built a full-stack interface to place and track orders in real time.

#### 4. CNN Image Classifier (PyTorch)

- Trained 5 CNN models to classify shirts, pants, and shoes using a custom dataset.
- Applied augmentation, dropout, learning rate tuning, and evaluation via confusion matrices.
- Achieved high accuracy with refined hyperparameters and visualization tools.

#### 5. Frontend UI Replication & Labs

- Recreated responsive UIs for Bhutan Times, Adobe, and many more using Figma, HTML, CSS, and JavaScript.
- Built React labs involving API interaction, form handling, and responsive layouts.
- Followed best practices in semantic HTML, Flexbox, and Grid.

## Leadership and Activities

- **Samtse Higher Secondary School** Samtse, Bhutan  
*Master of Ceremonies – Literary Festival* Sep 2023  
Hosted and coordinated the school's annual Literary Festival; engaged over 500 students and faculty through confident public speaking and smooth event flow management
- **Inter-School Fab23 Innovation Challenge** JNWSFL, Thimphu  
*School Representative* 2023  
Represented Samtse Higher Secondary School in a national innovation event; collaboratively designed and presented a working model demonstrating the process of hemodialysis using a functional dialyzer prototype

## Skills & Interests

### Technical:

JavaScript, Python, SQL, HTML5, CSS, React.js, Next.js, Node.js, Express.js, Flask, PostgreSQL, Git, GitHub, Zustand, Figma, REST API design, PyTorch, Gradio

### Languages:

English (Fluent), Dzongkha (Native), Lhotshamkha(Native), Hindi (Conversational)

### Laboratory / Research Tools:

PyTorch (model training, tuning, and evaluation), Gradio (model UI deployment), PostgreSQL (query optimization, indexing, views, stored procedures), Google Colab (experimentation and visualization)

### Interests:

UI/UX design, building educational tools, Machine Learning and AI, public speaking, event hosting, exploring new tech tools, volunteering at school events