

Shakirul Hasan Khan

Software Engineer

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📖 Publications

BnPC: A Gold Standard Corpus for Paraphrase Detection in Bangla, and its Evaluation, *ELRA and ICCL*

05/2024

- Introduced benchmark dataset for Bangla paraphrase detection with 8,787 human-annotated sentence pairs from 23 newspaper headlines, filling a research gap.
- Achieved highest weighted-F1 score of 87.91 with fine-tuned BanglaBERT; GPT-3.5 showed strong performance in zero-shot and few-shot settings.
- Demonstrated good generalization through cross-dataset analysis.
- Made dataset and code publicly available.

👛 Professional Experience

Software Engineer, *Ramble* 🔗

2023 – present | Remote, United States

- Developed a feature enabling summary generation and conversation with documents, leveraging **Instructor** and **Pydantic** across various **LLMs**.
- Implemented CRUD-based functionalities on a **Flask** server.
- Built a comprehensive web application adhering to **Figma** designs, using **NextJS** and **TypeScript**.
- Written end-to-end tests employing **Playwright** for a **NextJS** application.
- Engineered a sophisticated rich text editor, featuring commenting, mentioning, and highlighting capabilities, utilizing **PlateJS**, enhanced by real-time multi-user editing synchronization through **PubNub**, built with **NextJS** and **TypeScript**.
- Crafted a native-like web application interface with **ReactJS** for integration into a Mac application via web view.

Contract Software Engineer, *Trader's Connect* 🔗

2023 – 2024 | Remote, United Kingdom

- Developed the foundational front-end infrastructure for an upcoming large-scale web application.
- Written native modules in **Swift** to seamlessly connect a **React Native** app with a **GRPC** server.
- Crafted a customized and reusable component library in **React Native**, utilizing **styled-components** for a cross-platform mobile application.
- Engineered a cross-platform mobile application featuring over 20 distinct screens using **React Native**.

Software Engineer, *Re:cruit* 🔗

2022 – 2023 | Remote, United States

- Developed comprehensive test suites for **NextJS** applications utilizing **Jest** and **Playwright**.
- Spearheaded the creation of a full-stack resume-building application with **NextJS**, **TypeScript**, **Prisma**, and **Stitches**, integrating **PostgreSQL** for data storage and **OpenAI API** for content enhancement, with functionality to export resumes as PDFs.
- Engineered a large-scale language corpus testing tool using **Python**, enabling extensive data analysis and system optimization.
- Implemented an authentication system using **MagicLink** and contributed to the design of several web pages for a **DAO**, leveraging **NextJS** to achieve optimal user experience and system security.

Associate Software Engineer, *KAZ Software* 🔗

2021 – 2022 | Dhaka, Bangladesh

- Led the design of over 40 pages for a complex web application, catering to two distinct user interfaces with the use of **ReactJS**, **Typescript**, **SWR**, **Redux-Toolkit**, **RSuite**, and **SCSS**. Successfully integrated these with a **REST API** backend.
- Successfully upgraded two web applications from **ReactJS** version 16 to version 18, enhancing performance and compatibility.

- Merged four separate **ReactJS** applications into a unified **micro-frontend** platform using **Single-SPA**, and further improved deployment efficiency by containerizing with **Docker**.
- Authored end-to-end automated tests for a **ReactJS** web application utilizing **Cypress**.
- Engineered and implemented a range of features across two **ReactJS** web applications, employing **Typescript** for development.

Contract Software Engineer, Bengali.ai [↗](#)

2020 – 2021

Remote, Dhaka, Bangladesh

- Developed a web application with **ReactJS**, designed for benchmarking various Bengali text-to-speech models.
- Created a **Python**-based **Flask** wrapper server to integrate machine-learning models with the **ReactJS** application via **web-socket**.

Education

B.Sc. (Engg.) in Software Engineering,
Shahjalal University of Science and Technology [↗](#)

2018 – 2022 | Sylhet, Bangladesh

Skills

Proficient

NextJS, ReactJS, Typescript, Python Git, Github, ExpressJS, PostgreSQL, Docker

Others

Flask, React Native, Google Cloud, AWS, MongoDB, Tensorflow, Pandas, Java, Rust

Awards

First Runner Up, BUP Hackathon 2019

Honorable Mention, SUST LICT Tech Fest
Made it to the top 6 among more than 25 teams

Specialist (Max Rating: 1542), Codeforces [↗](#)

Selected Projects

Coterm [↗](#)

Copilot for terminal built using Rust, Vercel edge function, and OpenAI API.

Tech: Rust, NextJS, Vercel, OpenAI API

SUST Guest House Managing System [↗](#)

A website to manage the Guest House of SUST in Dhaka. I designed the front end for the end user.

Tech: ReactJS, Typescript, ChakraUI, C#, .NET

File Sharing System [↗](#)

A client-server system to share files through a socket.

Tech: Python, QT

Covid-19 Interactive Dashboard [↗](#)

A web dashboard with a map to view the current pandemic situation in Bangladesh

Tech: ReactJS, Bootstrap, Leaflet

See More Projects on LinkedIn [↗](#)

Organizations

SUST SWE Society, Publications Secretary [↗](#)

11/2019 – 11/2021

SUST ACM Student Chapter, Mentor [↗](#)

11/2021 – 11/2022

Certificates

- Deep Learning Specialization Coursera [↗](#)

- Tensorflow in Practice Coursera [↗](#)