Shirsho Dipto

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──Education──────────────────────────

B.S. Chemical Engineering   2017 Apr - 2021 Aug
Shahjalal University of Science and Technology   Sylhet, Bangladesh

Stanford Audited Classes: Data Structures and Algorithms, Systems Programming, Probability for Computer Scientists.
SAT: 1490/1600 | **SAT II MATH II:** 800/800 | **SAT II PHYSICS:** 760/800

──Work Experience──────────────────

Code In Place, Stanford University   2023 Mar - 2023 Apr
Section Leader, Mentor   Remote

- Worked within a **large teaching team** to ensure the effective delivery of the curriculum **teaching the fundamentals of programming** to nearly **500 students**.
- **Led a specific section** comprising a diverse **group of 10 students**, providing personalized guidance and mentorship throughout their journey.

──Projects────────────────────────

Geopolicy Insight   JavaScript, HTML, CSS, Webpack, MapboxGL, Mapbox Studio
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- Developed **an interactive, data visualization map** showcasing conflict zones and energy pipelines around the world, revealing crucial geopolitical insights.
- **Utilized by an online institution** to teach international policies to **hundreds of its students**.

NoseBook   ReactJS, ExpressJS, NodeJS, MongoDB, Socket.io, PassportJS, Material UI, Google Cloud, Cloudinary
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- Developed a **full stack Facebook and Messenger clone**, featuring all the core functionalities including posts, comments, likes, friend requests, real-time notifications, real-time messaging, and more.
- Employed **RESTful** API, **MVC** architectural pattern, and **Modular Routing** to ensure a flexible backend codebase.
- Created **two backend servers**—one for handling API requests and the other for handling Socket.io events.
- Implemented username/password-based authentication and **Google authentication** system with PassportJS and JWT.
- Utilized Socket.io to add real-time functionalities, such as real-time notifications (posts, friend requests, messages), online/offline friends, instant messaging, and a **typing indicator** that **outperforms skype and telegram by 50%.**
- Utilized **full-text search index** of MongoDB, allowing users to search for other users' accounts.
- Hosted the main API server on **Google Cloud's App Engine** Application Platform.

Battleship   JavaScript, HTML, CSS, Jest, Webpack, NodeJS, ExpressJS, Socket.io
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- Developed a Battleship game by adhering to Test-Driven Development **(TDD)** and Object-Oriented Programming **(OOP)** principles, resulting in a **decoupled and modularized** codebase.
- Utilized Jest testing framework to write comprehensive **unit tests**.
- Integrated **online multiplayer functionality** using Socket.io, enabling players to compete against each other in real-time.
- Implemented an intuitive ship placement mechanics through **HTML drag and drop**.

Blog App   ReactJS, ExpressJS, NodeJS, MongoDB, TinyMCE, PassportJS
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- Developed a **full stack personal blog** for posting stories and allowing other users to like and comment on them.
- Integrated **advanced text editor features with TinyMCE**, allowing the addition of images, tables, and iframes with posts.

──Skills────────────────────────

Programming Languages: JavaScript, HTML, CSS, NodeJS, Python, C++ | **Frameworks**: ReactJS, ExpressJS | **Database**: MongoDB
Miscellaneous: Git, Github, Webpack, Socket.io, Jest, Mapbox, Material UI, NumPy, Fly.io, Google Cloud, Linux
Languages: Bangla (Native) | English (Proficient) | Hindi (Conversational)