

RITUPAN DEKA

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EDUCATION

- **Barak Valley Engineering College, Sribhumi** Assam, India
Bachelor of Technology - Computer Science and Engineering; CGPA: 7.16 Nov 2021 - June 2025
- **Kendriya Vidyalaya AFS Borjhar, Kamrup Metro** Assam, India
HSC ; Percentage: 69.2 July 2018 - June 2020
- **St Clare's Convent High School, Kamrup Metro** Assam, India
HSSC ; Percentage: 88.6 July 2008 - June 2018

INTERNSHIP EXPERIENCE

- **Indian Oil Corporation Limited** Bongaigaon, Assam
Android App Development and Website Development Intern — 1st July 2024 - 30th July 2024
 - Developed a speech-to-text conversion app and website to improve accessibility, utilizing Python, JavaScript .
 - Integrated real-time speech recognition using the Google Speech API, enhancing functionality.
 - Designed and deployed a seamless user interface, increasing accessibility for a diverse user base.
- **Academic Internship** NIT Silchar
Research Intern — July 2023 - August 2023
 - Developed a cryptographic data transformation system using cyclic shifts, XOR operations, and binary encoding to securely transform and encode messages..
 - Analyzed the randomness and variability of cryptographic keys using Hamming distance and statistical metrics like mean and standard deviation to ensure key diversity.
 - Automated the creation of training datasets for machine learning and testing, generating structured key-data pairs for cryptographic analysis.
 - Tech Stack: C, File Handling, Data Manipulation, Cryptographic Algorithms.

PROJECTS

- **Handwritten Text Recognition**
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 - Developed a machine learning model for handwritten paragraph image-to-text conversion .
 - Designed and implemented a CNN-based pipeline to recognize and extract text from scanned handwritten paragraphs with high accuracy.
 - Utilized pre-processing techniques to enhance image quality and improve recognition performance.
 - **Tech Stack:** Python, TensorFlow/Keras, OpenCV, NumPy, Matplotlib
- **Zero Watermarking for Medical Image**
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 - **Tech Stack:**

SKILLS

- **Languages** C/C++, MySQL, SQL, HTML, CSS, JavaScript
- **Frameworks** Node.js, Vite, Express, React.js, Vue.js, TensorFlow, Keras
- **Tools** Git/GitHub, Firebase, REST API
- **Platforms** Linux, GCP, AWS
- **Machine Learning/AI** scikit-learn, PyTorch, Natural Language Processing (NLP), TensorFlow, OpenCV
- **Databases** MongoDB, Firebase Firestore
- **Web Technologies** Tailwind CSS, GraphQL, WebSockets
- **Cryptography** XOR, Hamming distance, Cryptographic Algorithms
- **Course Work** OOP, Data Structures and Algorithms, Operating Systems, Computer Networks, DBMS
- **Soft Skills** Communication, Attention to detail, Teamwork, Leadership, Time Management

OTHER INTERESTS/EXTRACURRICULAR ACTIVITIES

- **NCC:** Participated in leadership development and outdoor activities.
- **Foundations/ NGOS:** Volunteered in community outreach programs