

488/3 Simplex Shaila, North Kafrul, Dhaka-1206 • sleeping4cat@gmail.com • +880 (198) 785-8562

SUMMARY

AI researcher with 3+ years of experience, in implementing complex and advanced Algorithms and Artificial Intelligence models for prestigious academic institutions, promising startups and personal projects. Proven success in model architecture, dataset preparation, mathematical function (activation, optimizer & loss) and scalability of those models. A strong understanding of CV, NLP and RNN and quite recently, Quantum Computing.

PROFESSIONAL EXPERIENCE

HARVARD GAMI, MA, Cambridge
AI researcher & Team lead

September 2022–Present

- Leading Cancer Research team & providing solutions to identify cancer cells faster and accurately
- Collaborating with Dr. Anna to bring her cancer cells identification method to hospitals for accurate analysis via AI
- Developing state of the art Artificial Intelligence solutions for a wide-variety in medicine by working with Harvard Professors and industry leaders.
- Planning to publish papers in Nature

THE PLASTIC PROJECT, Seattle, Washington
AI researcher

April 2023–Present

- Developing Image Segmentation & Classification models to identify different plastics and help to sort them
- Proving Artificial Intelligence Solution to identify food items and calculate wasted food's monetary value
- Designing interactive user UI and planning to deploy it in Seattle via working with local authorities.

PINK AI, Miami, Florida
Co-Founder & AI researcher

April 2023–Present

- Our startup got selected by MIT Solve
- Developing mental health chatbot using GPT-4 and Blender Bot
- Enabling Cognitive features to make chatbot feel like actual human
- Designing both multimodal and large language model oriented solutions

OCTOML, Seattle, Washington
UX/UI Designer & DevOps advisor (contractor)

October 2022–November 2022

- Provided feedback & advise to improve the platform for fast deployment by AI researchers and people with little knowledge in DevOps
- Pointed out flaws and unrequired complexities of both the UI and the DevOps portion of the platform.

◆ PAKISTAN ATOMIC ENERGY COMMISSION, Pakistan
Coach

- Taught high school students high energy physics and Machine Learning
- Helped them to develop both idea and proposal for Beamline for Schools
- Helped the students to create a Quantum Algorithm to recognise faint sounds produced by particles while they collide and recognise particles based upon that

August 2020–September 2021

◆ TARTEEL AI, San Francisco
Algorithm Tester

- Tasked to test app UI and voice recognition Algorithm

October 2021–October 2021

◆ ARTE, The Open Lab, Yale University, New Haven, Connecticut
Volunteer Lecturer

- Taught New Haven School Students Electrical Physics (performing Circuits and switch making & experiments)

December 2021–March 2022

◆ IFJ PAN INSTITUTE OF NUCLEAR PHYSICS POLISH
ACADEMY OF SCIENCES
Collaboration

- Collaborated with Krzysztof Woźniak to create DIY Neutrino Detector for Beamline for Schools competition

SUMMER CAMPS

TECH & JOURNALISM CAMP, THE STANFORD DAILY, CA 2021

- Accepted as one of 10 participants
- Studied fundamental knowledge of JavaScript and web development
- Studied responsible journalism and ethics
- Received 100% Scholarship

SYNTHETIC BIOLOGY CAMP, STANFORD UNIVERSITY, CA 2022

- Studied Genetic engineering and DNA
- Performed DNA modification and Analysis using Software
- Studied Bioinformatics Algorithms and wrote them.

COLLEGE CREDITS

4th Annual Conference on Disability in Healthcare and Medicine, STANFORD UNIVERSITY, CA

- Received 6.00 AMA PRA Category 1 Credit(s)™ for the live activity

ACTIVISM ACTIVITIES

MENTORSHIP FOR PROJECTS ADDRESSING TO SOLVE SOCIAL INJUSTICE IN ASIA/OCENIA, PEACE FIRST, Boston, MA

2023

- One of the 10 accepted applicants to receive mentorship and assistance for my project which addresses to solve a Social Injustice in Bangladesh & South East Asia

CONFERENCE & ACTIVITIES

NATIONAL IQ TEST 2020

- Secured 3rd position among 250 high school seniors from top schools in Bangladesh

INTERNATIONAL CONFERENCE FOR LEARNING REPRESENTATION (ICLR), Virtual 2021

- Web testing, monitoring the website & looking for bugs and errors.
- Helping Authors and moderators with video infrastructure software & monitoring chat rooms for code of conduct violation
- Conducting Q&A sessions after Orals with moderators, and helping them to select important questions and forward them.
- Answering questions on technical issues in the helpdesk

INTERNATIONAL CONFERENCE FOR MACHINE LEARNING (ICML), Virtual 2021

- Conducting 3 Orals as the youngest moderator in ICML history (high school junior)
- Web testing, monitoring the website & looking for bugs and errors.
- Helping Authors and moderators with video infrastructure software & monitoring chat rooms for code of conduct violation
- Conducting Q&A sessions after Orals with moderators, and helping them to select important questions and forward them.

CONFERENCE ON NEURAL INFORMATION PROCESSING SYSTEMS (NEURIPS), Virtual 2021

- Web testing, monitoring the website & looking for bugs and errors.

- Helping Authors and moderators with video infrastructure software & monitoring chat rooms for code of conduct violation
- Conducting Q&A sessions after Orals with moderators, and helping them to select important questions and forward them.

OX-WSDC , THE OXFORD UNION, Oxford, England

2021

- Selected as one of the 10 independent teams among 100 total selected team for highly prestigious debate competition for high school students
- Competed against sixth forms like Eton College.
- Praised by the judges for gifted logical and reasoning skills.
- Received partial 80% scholarship

HARVARD SCIENCE AND RESEARCH CONFERENCE (HSRC), MA, Cambridge

2021

- Selected among one of the 250 participants from 1000+ applications as one of the advanced high school students
- Received the chance to learn key academic qualities from Harvard Professors
- Received 100% scholarship

INTERNATIONAL ASTRONOMY AND ASTROPHYSICS COMPETITION (IAAC), Virtual

2021

- Received a Bronze award in the competition

FEMTECH BERKELEY

2022

- Had the opportunity to learn scalability and best software practices from industry experts
- Developed a project using lobe.ai to detect nail styles and tell its name

HARVARD COLLEGE VISION PROGRAM, Cambridge, MA

2022

- One of the 30 students selected from an application pool of 1000s
- Learned Medical Leadership and activities
- Participated in Case Study
- Received 100% scholarship

HARVARD UNICEF CONFERENCE, Cambridge, MA

2022-2023

- Accepted for the Conference and participated as one of the 30 few individuals
- Participated in Environment and Climate Change Project
- Accepted in both 2022 & 2023 Conferences with 100% scholarship
- In 2023, served as an Ambassador for the Conference

IMMERSIVE ESSAY COMPETITION, UK

2022

- Accepted into their program with 20% scholarship

HARVARD UNDERGRADUATE INTERNATIONAL RELATIONS SCHOLARS PROGRAM, Cambridge, MA

2023

- Accepted to Harvard's Prestigious International Relations program as a gap year student
- Considered as one of the best applicants they received in 2023 application pool
- Full scholarship was awarded

EDUCATION

DHAKA CITY COLLEGE, Dhanmondi, Dhaka

Graduated Feb 2023

High School Diploma (subjects: Natural Sciences, Literature & ICT),

Grade: A (Taking a Gap year)

Key points:

- Studied introductory Quantum Mechanics and advanced Mathematics

- ICT aka Computer courses included courses in Circuits, programming in C++ & web development
- Selected to be club president in two different clubs i.e. Debate & English
- Active member in all the clubs most notably being English & Art
- Worked as volunteer & planner in English club's national festival

WOLFRAM SUMMER SCHOOL, Wolfram Mathematica, Boston, Massachusetts
Research Fellowship & Mathematics program

June 25 – July 15, 2023

Key points:

- Youngest participant to be selected in 2023
- Selected as gap year student

PROGRAMMING LANGUAGE

1. Python (Advanced level)
2. C (Intermediate level)
3. C++ & Julia (above beginner level)
4. Wolfram Mathematica Language (Beginner-Intermediate)
5. R & Haskell (Intermediate level)
6. Assembly (enthusiast & almost intermediate level)

GITHUB PROJECTS

1. Forward
 - Explains different forward pass algorithms in Deep Learning
 - Includes Forward-Forward, Backpropagation & Parallel-propagation algorithms
 - Provides a high-level summary and instructions to properly use them
 - Benchmarks each Algorithm on wide variety of tasks
2. Deep Learning
 - A full fundamental to advanced deep learning repository containing code for implementation of different papers and techniques.
 - Includes bleeding edge techniques with easy experiments
 - Introduction to advanced tutorials in PyTorch
 - Lecture notes and materials
3. PaLM
 - Refactored @Conceptofmind's code for easy use by developers and non-coders to use PaLM
4. bert-uncased
 - An exploration to find-out bert's capabilities to translate between languages
5. Introduction-JAX
 - An in-depth dive to Jax deep learning framework from fundamentals to advanced concepts
6. Algorithms
 - Repository to contain my python algorithm practices from LeetCode
7. WasteNet
 - A reverse-engineered version of UK government's state of the art waste classification deep learning model
8. Shallow-learning
 - Replicating brain's low energy high efficiency model architecture & calculating (maths)

Above mentioned projects are highlights of my github, does not reflect entirely of all the projects. Every week, new projects are being added to my account. Please, refer to my account directly to understand the scope of my projects.

TECHNICAL SKILLS

- Programming knowledge in multiple languages such as C, C++, Go, R and JavaScript. An expert in Python.
- Comfortable with Numpy, Pandas and Seaborn. And a strong grasp of Data Science.

- 3+ years of experience in Tensorflow and proficiency in Jax and Pytorch.
- Intermediate experience in Web Scraping using Python, BeautifulSoup & Selenium.
- Intermediate experience in developing genetic and nature inspired Algorithms.
- Intermediate experience in developing HTML and JavaScript Games & RNN AI.
- Advanced knowledge in Quantum Computing Frameworks such as PennyLane, Qiskit, Cirq and Tensorflow Quantum.
- Experienced in high frequency trading Algorithms.
- Experienced Graphical Neural Networks & Quantum Hybrid Neural Networks.

SOFT SKILLS

- Friendly and calm attitude with strong leadership skills. And led about 30 teams in deep learning which consisted of master's and PhD students from Ivy league universities and top universities around the world.
- Expert networking and connecting skills
- Experienced in marketing and promotion. And worked as a salesman for 6 months while in middle school.
- A native speaker in English and effectively speaks Urdu and Bengali.