

PRIONTU CHOWDHURY

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in priontu



Education

2020–present **BSc Computer and Electrical Engineering**, *Jacobs University*, Bremen
(Bremen, CGPA: 1.17
Germany)

Experiences

- Feb 2022 - **Teaching Assistant**, *Digital Design*, Jacobs University Bremen
Present
(Bremen, Germany)
 - Responsible for grading assignments and assisting with FPGA programming in Design Labs
 - Instructed on the application of Gates, Registers, Multiplexers, Decoders, Counters, Flip Flops, Finite State Machines etc. in developing Digital Circuit models on the FPGA board
 - Lab tasks included implementation of sequential programming concepts in constructing a 7-Segment Decoder and a UART transmitter on an FPGA board, using Xilinx IDE for VHDL programming and simulation
- Feb 2022 - **Teaching Assistant**, *Algorithms and Data Structures*, Jacobs University Bremen
Present
(Bremen, Germany)
 - Demonstrated use of Dynamic Programming and Greedy Approach to solve key conceptual problems
 - Illustrated application of graphing algorithms such as Breath-First Search, Depth-First Search, Prim's, Dijkstra and Bellman-Ford in path finding solutions
 - Also provided detailed execution and asymptotic analysis of relevant algorithms and data structures (Quick Sort, Binary Tree etc.)
 - Graded assignments, helped students with debugging code, and provided tutorials
- Sep 2021 - **Teaching Assistant**, *Programming in C and C++*, Jacobs University Bremen
Dec 2021
(Bremen, Germany)
 - Tasks included grading assignments, providing tutorials and helping students with debugging code.
 - Some content dealt with on a regular basis:
 - Object Oriented Programming: Classes, Methods, Namespaces, Inline Methods, friend functions, Overloading, Polymorphism, Abstract Classes, Multiple Inheritance, Class Hierarchy
 - Pointer Arithmetic, Dynamic Memory Allocation, Multidimensional Arrays, Structs, Function Pointers, Bit Operations/Masking, File Handling, Exception Handling
 - STL Library: Vectors, Queues, Linked Lists, Sets, Multisets etc.
- July 2016 - **Assistant Tutor**, *Computer Science*, Sunshine Grammar School
July 2018
(Chattogram, Bangladesh)
 - Provided tutoring on topics such as Operating Systems, Assembly Language, Databases, Data Compression, Data Representation, Management Systems, Logic Gates and Logic Circuits
 - Labs included practical lessons on HTML, CSS, PHP and javascript to develop simple web pages
- Feb 2015 - **Product Supervisor**, REPTO-Education Center
Feb 2016
(Dhaka, Bangladesh)
 - Responsible for supervising web-platform and content, organizing content, checking for glitches
 - Debugging code in case of component errors
 - Communicating structural changes and bugs with the technical team

Skills

Languages	C, C++, Python, VHDL, Javascript, HTML/CSS, MATLAB, Latex
IDE	Visual Studio Community, VS Code, Sublime, Atom, Jupyter Notebook, Xilinx
Libraries	STL, Pyplot, NumPy, Scikitlearn, Skimage, Tensorflow, React.Js

Relevant Courses

Computer Vision, Machine Learning, Artificial Intelligence, Digital Signal Processing
Signals and Systems, Algorithms and Data Structures, Programming in C/C++
Probability and Random Processes, Digital Design, Numerical Methods, Information Theory

Projects

Travel Agency Management System

- Digital solution to a Travel Agency Management System containing a simple, friendly user interface
- User interface includes account sign-up, log-in capability, and a home page with menu linking all forms
- Functionalities involve customer, vehicle, package and employee registrations (separate forms), package and vehicle booking and billing generation, automatic report and receipt generation on completion of booking/billing, fuel use record keeping, updating vehicle or booking information and backing-up data
- VB6 used for development, Ms Access used for database; complete with documentation

ADOPT ME (Dog Adoption Website)

- Dynamic website for dog adoption
- User interface developed using React.Js, Redux and JSX; CSS used for styling
- Website content loaded from third party server

Simple Calculator

- iPhone style calculator developed using HTML, CSS and javascript
- Able to perform simple arithmetic; includes buttons for mathematical operations, clearing screen, numbers etc.

UART Transmitter

- Use of FPGA Board to send message to computer through serial port
- Application of UART Protocol as a communication protocol
- Finite State Machines, Registers, Multiplexers, and Counters were some of the components used in developing the transmitter
- Programmed using VHDL, compiled and simulated on Xilinx IDE, and tested on the Spartan-3 FPGA Board

7-Segment Decoder

- Using VHDL to program the seven segment display on the FPGA board
- the first two displays shows 4-bit hex values set by the switches
- the last two displays show the sum of the first two digits
- components involve clock divider and segment decoder, which were programmed separately and put together with a top-down design

Awards and Achievements

Bremen, Germany	Merit Scholarship: Jacobs University Bremen <ul style="list-style-type: none">○ Merit scholarship awarded for excellent academic record, providing funding for the whole duration of undergraduate study.
Dhaka, Bangladesh	National Award: The Nation Builder of Tomorrow, The Daily Star Foundation <ul style="list-style-type: none">○ Awarded for achieving a nationally high score in Cambridge A Level exam, with 4 A*s.

Dhaka, **National Award: Bangladesh Physics Olympiad**, National Rank: 12
Bangladesh ○ Awarded for achieving the 12th rank nationally in Bangladesh Physics Olympiad.

Languages

German(B1+), English(C2), Bengali(C2), Hindi(B2)

Volunteer Experiences

Aug, 2021 - **Peer Counselor: Jacobs University Bremen**

Present ○ In charge of assisting freshmen integrate into the new environment and culture they have been
(Bremen, introduced to, and supporting them with their academic and college life.
Germany)

July, 2016 - **Institutional Representative: Volunteer For Bangladesh, JAAGO Foundation**

June, 2018 ○ Responsible for encouraging students from my institution to participate in VBD events by
(Chattogram, organizing workshops and spreading news about events, and for student registrations from my
Bangladesh) institution to events.