

## EDUCATION

### Ithaca, NY, USA

### Cornell University

Dec 2020 Graduate

B.S. Computer Science and Electrical and Computer Engineering | GPA: 4.1 | Dean's Honor List | ACT 36 | SAT 1590

Coursework: Data Science, Computer Networks, Functional Programming, Microelectronics, Embedded Systems, Signals and Information Systems, Discrete Mathematics, Data Structures

### Islamabad, Pakistan

### NUST

Sep 16 - Jun 18

Mechanical Engineering | GPA: 4.0 | Ranked first among all 110 mechanical engineering students for duration of study

Coursework: Computer Aided Design, Mechanics of Materials, Thermodynamics, Fluid Mechanics, Engineering Statics and Dynamics, Professional Ethics, Technical and Business Writing, multiple courses in mathematics

## EMPLOYMENT

### IoT + Embedded Engineering Intern

### Microsoft and Cornell CIDA

May 19 - Present

- Successfully led deployment efforts for Microsoft FarmBeats prototype hardware and Azure services across 3 research teams.
- Designing data storage and processing protocols for data-driven agriculture using IOT, cloud computing and AI.

### Database Developer

### Developments in Literacy USA

Aug 17 - Mar 18

- Optimized NGO's donation collection by proposing and developing a donor management system.
- Worked closely with Business Development Director and CEO to address current donor stewardship bottlenecks.
- Designed a SharePoint based system with multi-user access, a modern UI and intelligent validation and analytics features.
- Database reduces data entry errors by 30%, entry times by 25% and scales efficiently to 50,000+ records on low-end PCs.

### Industrial Automation Intern

### INTECH Process Automation

Summer 17

- R&D for an AI-based industrial asset management software platform to compete with GE and Accruent's offerings.
- Assessed reliability centered maintenance frameworks using FMECA and analyzed international standards for compliance.

### Intern Coordinator

### Developments in Literacy Pakistan

Jul 17 - Sep 17

- Coordinated intern teams at the DIL head office for data entry, academic syllabi design and mobile application development.
- Organized and managed logistics for field internships of 100+ university students at 12 DIL schools across Pakistan.
- Recruited new graphic design interns to improve DIL's social media presence and launch the DIL YouTube channel.
- Co-authored corporate donation proposals and donor reports to secure annual funding for a model nursery and 2 DIL schools.

### Undergraduate Researcher

### National Center of AI, NUST

Sep 17 - Jun 18

- Researched real-time natural language-processing, scene analysis and emotional perception to improve upon modern Eckman's Facial Action Coding System-compliant systems.
- Modeled and animated a realistic human head in Blender that could be controlled via Python scripts.

### Cofounder

### Store Bumble

Aug 17 - Jul 18

- Launched Store Bumble, a fashion brand, to experiment with digital marketing on a 300 USD initial investment.
- Ran targeted social media advertisements and managed supply chain to boost monthly revenue to 2000+ USD in 5 months.

## PROJECTS

See more at <https://github.com/mueedurrehman>

- **Poker Engine (OCaml):** Led development of poker engine with support for up to 10 players and an ASCII-art text-based interface. Implemented a state-of-the-art hand evaluation algorithm and Monte Carlo-based AI bots of varying difficulty.
- **MNIST Handwritten Digits Classifier (Python):** 99% + accuracy using SVMs and image deskew techniques.
- **Mark 1 (C#):** University grade tracking application with a Windows 8 Metro Themed GUI and Excel I/O capabilities.
- **Heart Rate Monitor (Verilog):** Developed a full single cycle microprocessor capable of executing sequential code including branching and halting logic on an Altera-based FPGA. Used it to display a user's beats per minute in real time.
- **Pipe Network Analysis Software (Python):** An efficient Hardy Cross pipe network flow analyzer with Excel I/O.

## SKILLS

**Programming:** Python, C, C++, C#, MATLAB, Java, OCaml

**Others:** Linux, CLI, Git, ARM, Arduino

**Web Development:** JavaScript, Node.js, HTML, CSS, jQuery

**Machine Learning:** PyTorch, Scikit-learn, NumPy, Keras

**Design:** Verilog, PTC Creo, SolidWorks

**Microsoft:** MOS (Access, Word Expert, PowerPoint, Excel)

**Languages:** English (Native), Urdu (Native), Spanish (Basic)

**Interests:** Public Speaking, Rock Climbing, Cooking,

Blockchain

## HONORS

1. Cornell Data Science for Engineers Visualization Contest Winner (2018)
2. IMechE Repeatable Vehicle National Design Challenge Winner (2018)
3. IMechE National Speak Out for Engineers (SOFE) Open Runner up (2017)
4. UNDP - CPNE National Climate Change Writing Award (2017)