

# Hammad Afzal

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## EDUCATION

**University of California, Berkeley** | Berkeley, USA

Expected Graduation: May 2022

Bachelor of Science, Electrical Engineering and Computer Science (EECS)

**Relevant Coursework:** **Data 8:** Foundations of Data Science, **CS 61A:** Structure & Interpretation of Computer Programs (**Python, SQL**), **CS 61B:** Data Structures (**Java**), **CS 61C:** Computer Architecture/Machine Structures (**C, RISC V**), **CS70:** Discrete Math and Probability, **CS 170:** Efficient Algorithms & Intractable Problems

**University of Pennsylvania** | Philadelphia, USA

July 2018

Engineering Pre-Collegiate Diploma in Computer Science

## SKILLS

**Languages:** Java, Python, C, RISC V, VB.Net, SQL, HTML5, CSS3

## WORK EXPERIENCE

### Ovex Technologies

Lahore, Pakistan

*Business Process Outsourcing Intern*

June 2020 – August 2020

- Incorporated FIFO (First-In, First Out) routine into Complaint Management System (CMS) algorithm for Sui Northern Gas and Supply Company
- Helped program Full-Duplex data transmission in 2 channels for Primary Rate Interface (PRI) application for Habib Bank Ltd. (HBL) call centers
- Designed and debugged algorithms for “Tax Oye” (filing tax returns) and “Muhafiz” (life support utility) mobile applications currently used by 2,040,000 people

### Lahore Electric Supply Company

Lahore, Pakistan

*IT Intern*

June 2019 – September 2019

- Developed online digital system to replace manual paper filing in government offices for installing new electrical connections via company website used by 100,000+ citizens
- Implemented Enterprise Resource Planning (ERP), a database system, to facilitate 24,700 clients and employee exchanges for development requests
- Redesigned billing system by developing application that uses snapshots of electric meters to provide error-free measurements to 4.5 million consumers and significantly reduce over-billing

## RESEARCH EXPERIENCE

### Nanotechnology at Lawrence Berkeley National Laboratory

Berkeley, USA

*Research Assistant*

January 2019 – Present

- Helping develop carbon-nanotube based sensors to monitor various elects of human body
- Designing circuits for multi-analyte carbon nanotube-based biosensor array
- Optimized software and introduced machine learning algorithms for data analysis

### Independent Project: United Nation’s Sustainable Development

Lahore, Pakistan

*Global Researcher*

January 2014 – June 2017

- Researched solutions for unhygienic drinking water in Thatta under Prof. Abdul-Qayyum of Punjab University and wrote 3 feasibility reports, later approved and implemented by provincial Government
- Published article on effects of LifeStraw implementation in Jacobabad in Sada-e-Watan newspaper
- Filmed and video-edited 4 educational videos and designed 16 poster variations (1,200 printed) to spread awareness of the non-biodegradable nature of polythene bags

## HONORS, AWARDS AND LANGUAGES

**Honors:** Full Merit Scholarship – Awarded \$10,000 (Maximum scholarship awarded to students by high school), Declared student of the Year (top 1% Class Rank), High school distinction in Computer Science

**Awards:** Certificate of Distinction & medal of merit given by the University of Waterloo in Euclid Mathematics competition, Gold medalist National Informatics Competition

**Languages:** English, Urdu, Hindi, Punjabi, Pashto (basic)