ABDULLAH IRFAN SIDDIQUI

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Pomona, CA

Highlights

- **Pursuing a master's degree in computer science; expected to graduate by Spring 2025.**
- **Demonstrates leadership and influence over decision-making and problem-solving across teams through effective communication, collaboration, analytical thinking and swift execution.**
- **Proven track record in Software Engineering, Web Development and Machine Learning.**
- **Extensive experience with Python and TensorFlow.**
- **Technical Skills:**
  - Languages: (Proficient) Python; (Familiar) C, C++, C#, Java, JavaScript, PHP, SQL
  - Google Cloud Platform (GCP): BigQuery, Cloud Storage, Composer, App Engine
  - Atlassian: Jira, Confluence, Bitbucket
  - Web: HTML, CSS, React.js, Next.js, Node.js, Express.js, MySQL, Firebase, MongoDB
  - Machine Learning: Pandas, NumPy, Scikit-Learn, Keras, TensorFlow, PyTorch
  - Tools: Git, ROS, Unity

Education

Master of Science in Computer Science
California State Polytechnic University at Pomona | Pomona, CA | May 2025 (Expected)
- **4.0 GPA**

Bachelor of Science in Computer Science
American University of Sharjah | Sharjah, UAE | June 2021
- **Minor in Data Science**
- Awards: Dean's List 2021, Exceptional Student Award, **Undergraduate Research Grant**

Projects

(Master's Project) Pseudo-Single-Step EEG Biometric Alternatives to Two-Factor Authentication
- Helped design an audio-based biometric classifier with a 96% accuracy (**12% improvement** over older models) and an average user-recognition rate of 89%; deployed on **AWS** with a **React.js** interface.
- Developing a multi-visual, pattern-based, biometric cryptosystem utilizing BCI Motor Imagery (MI), Event Related Potentials (ERPs) and Steady State Evoked Potentials (SSEPs).

Efficient Physiological Signal Acquisition within Immersive Virtual Experiences
- Constructing modular frameworks for easy integration and acquisition of physiological BLE device data within immersive VR experiences inspired by **open-source** projects such as the Excite-o-Meter.

(Undergraduate Capstone Project) Portable Software for Indoor Robot Navigation
- Developed an efficient indoor navigation software using **ROS** and **Python.**
- Designed as a scalable, universal, and **open-source** tool for indoor mapping and navigation.

Professional Experience

Research Assistant
California State Polytechnic University at Pomona | Pomona, CA | January 2023 – Present
- Spearheading research in Brainwave Data Analytics and Security using advanced ML and EEG Signal processing pipelines at the CPP PolySec Lab; **funded by the National Science Foundation (NSF).**

Teaching Assistant
California State Polytechnic University at Pomona | Pomona, CA | June 2024 – August 2024
- Guided rising high school students through a 6-week intensive research internship on malware classification using deep learning architectures.
- Led a week-long summer camp introducing novice high school students to common computer science domains including AI, ML, Robotics, Web/Mobile development, etc.
- Managed class operations including material preparation, inventory checks, assignment grading, while providing support with constructive feedback and criticism.

Student Assistant
California State Polytechnic University at Pomona | Pomona, CA | September 2023 – December 2023
- Simulated complex math and physics concepts (in **Unity**) such as vector calculations, projectile motion, etc., gamifying the learning experience in over 4 departments of science and engineering.

Software Engineering Intern
Adpedia | Remote | January 2022 – October 2022
- Streamlined and automated large-scale data processes in over 5 departments by developing advanced data tools, orchestration workflows and interactive dashboards (using **Google's Cloud Platform**).
- Reduced manual workloads using **REST APIs** and **SDKs** from Google and Meta to extract relevant travel market metrics for the formulation of daily/monthly invoice reports and future trends.
- Led a team of 4 (as **Scrum Master**) in the construction of a real-time data visualization platform built using **Next.js** and Bitbucket **CI/CD** pipelines, following the **Agile** methodology.
- Responsible for code documentation, bug tracking, and versioning using the **Atlassian Suite**.

Software Engineering Intern
Salus Lab | Dubai, UAE | June 2020 – August 2021
- Developed secure virtual environments (deployed on the web) for cybersecurity training, vulnerability testing, and enhanced system monitoring, accessible to professionals across the MENA region.
- Guided a team of 6 in developing the web platforms using the **MEVN stack** (MongoDB, Express.js, Vue.js, Node.js) and **ElasticSearch**, influencing product directions and ensuring **timely deliveries**.

Publications

EEG Signal-Based Authentication: A Performance Evaluation of Feature Extraction and Classification Techniques
- 2023 IEEE International Conference on Big Data held in Sorrento, Italy