Shuaib Ahmed

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EDUCATION

University of California, Davis **Davis, CA**
B.S. in Computer Science (GPA: 3.94) ***Expected Graduation: June 2026***
- Relevant Coursework: Object Oriented Programming, Data Structures & Algorithms, Discrete Math, Operating Systems

PROFESSIONAL EXPERIENCE

Software Engineer Intern @ **GEICO** **June 2024 - Present**
- Developed a novel CRM tool for customer service accessibility with integration of virtual assistant/live agent assistance.
- Developed a virtual assistant built on a transformer model, trained on **~10,000** data entries, providing assistance with AI.
- Implemented agent support feature, enabling seamless connection between clients and Salesforce agents through live chats.
- Enhanced customer service efficiency by ~**13**% and increased the capacity for simultaneous customer assistance by **9%**.

Research Assistant @ **UC Davis (PI: Dr. Zubair Shafiq)** ***June 2023 - Present***
- Research in applications of adversarial machine learning and generative models for web security and internet privacy.
- **Project 1: Co-authored** paper performing first large-scale study investigating sophisticated bot detection evasion against commercial anti-bot services. Analyzed adversarial bot fingerprints to uncover recurring inconsistencies and utilizing FGSM on deep learning models to produce methods for more accurate bot detection.
- **Project 2:** Developing an innovative technique for device fingerprinting by examining the distinctive patterns on processors induced by power viruses to generate unique fingerprints for individual devices.

Software Engineering Intern @ **Volt** ***Sept. 2023 - Dec. 2023***
- Collaborated on a cross-disciplinary team of 10 to create an application displaying cost statistics and revenue data.
- Utilized cutting-edge technologies to implement a backend powered by a FastAPI server in Python and PostgreSQL managing over **2000** data entries, and a React frontend application with JavaScript
- Oversaw the creation of API endpoints for functions such as returning dashboard data, specific customer data, and report generation, displaying over **1500** entries of company statistics

Co-founder/Lead Developer @ **TimeSync** - ***Scheduling App*** **(GitHub*: /TimeSync*)** ***Apr. 2023- Oct 2023***
- Led a team of 2 software engineers to develop a full stack application with daily development meetings
- Released application as beta, providing scheduling services to **23** users across **5** organizations
- Implemented advanced optimizations, including event descriptions, customizability, server optimization processes that increased API endpoint communication speed and data transfer speed to the database by **25%**
- Accepted into StartUpDevKit 3-month accelerator program

PROJECTS

Vivid - ***Community Image Generation Application*** **(GitHub*: /Vivid* | App *:* Vividbeta)** ***June 2023 - July 2023***
- Developed a MERN web application, that efficiently converts user descriptions into images using DALL-E API
- Integrated Cloudinary API to manage and showcase user-generated images fostering community engagement
- Ensured data persistence and retrieval through MongoDB database currently storing information on **20+** users & **35+** posts
- **Technologies:** MongoDB, Express.js, React.js, Node.js, Netlify, OpenAI API, Cloudinary API

SQL Query Generator - ***Natural Language to SQL converter*** **(GitHub*: /SQL-Query-Generator*)** ***May 2023***
- Utilizes OpenAi's daVinci model to convert inputs into sql queries that can be used for large database management
- Improved application complexity with also including gpt-turbo-3.5 model increasing application performance by **15%**
- Provided users with customizable query parameters, enhancing versatility and drastically cutting average query development times by almost **50%**, especially when dealing with large databases and query insertions/extractions
- **Technologies:** React.js, HTML, CSS, Node.js, Express.js, OpenAI API

RMP Extension - ***Schedule Builder Extension for UC Davis students*** **(GitHub*: /RMP-Extension*)** ***April 2023***
- Led a team of three engineers in UC Davis hackathon to design and develop a streamlined Chrome extension, allowing students to easily view professor ratings through third-party API integration.
- Enhanced the extension's performance speed by over **15%** through the implementation of efficient caching mechanisms, resulting in a significant improvement in program speed and increasing backend storage capacity to about **4,300** data points
- **Technologies:** Python, Javascript, HTML, Pandas Dataframes, API & cache implementation

RESEARCH PUBLICATIONS

[1] FP-Inconsistent: Detecting Evasive Bots using Browser Fingerprint Inconsistencies [Paper]
Hari Venugopalan, Shaoor Munir, **Shuaib Ahmed**, T. Wang, Samuel T. King, Zubair Shafiq. **[In Submission IEEE '25]**

SKILLS / INTEREST

Languages: C/C++, Python, JavaScript, HTML, React.js,, Node,js, Linux/Unix, Java, Angular, Kotlin, MySQL, PostgreSQL
Technologies: Flask, Heroku, MongoDB, Tensorflow, API Management,, Git, NoSQL, Microsoft Offices, Golang, Jira, AW, PyTorch,Keras