

# Farhat R. Ahmed

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## Objective

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As a computer engineering undergrad at UCSD, I am seeking internships to contribute and expand my technical skills in a practical industry setting.

## Education

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**Bachelor of Science in Computer Engineering**  
**University of California San Diego | San Diego, CA**  
**Expected Graduation Date: 06/2026**

- current GPA: 3.94, 182/196 credits

### Relevant courses taken:

- **CSE:** Advanced Data Structures, Design and Analysis of Algorithms, Computer Organization and Computer Programming, Engineering Computation/C Introductory Programming Class, Software Tools and Techniques Laboratory, Software Engineering
- **ECE:** Introduction to Analog Design, Components and Circuits Laboratory, Circuits and Systems, Linear Systems Fundamentals
- **Math:** Mathematics for Algorithms and Systems, Engineering Probability and Statistics, Linear Algebra, Calculus and Analytic Geometry, Discrete Mathematics, Differential Equations
- **Electives:** ML Learning Algorithms, Introduction to Artificial Intelligence

### Folsom High School | Folsom, CA 05/2022

- **weighted GPA** - 4.40/4.00, **1580 SAT** (800 Math/780 English)

## Work Experience

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### **Paid Internship at UCAR/NCAR| 06/2023 - 10/2023** **(federally funded atmospheric research facility)**

- Automated network processes through Python scripting to improve network efficiency
- For easier maintenance of UCAR's network database, revamped existing database 'Portlist' built on Perl by combining Python and AKIPS(network monitoring software)
- Collaborated in creating a program from scratch to check the state of UCAR's out of band network(backup to main network)
- Enabled simpler configuration for UCAR's land-lines by converting existing configuration file format(SCCP) to MGCP format through Python file parsing
- Enhanced login efficiency by automating SSH key validation to consolidate device keys in a global file
- Simplified Ansible playbooks that update Cisco and Juniper accounts to call a single accounts file
- To ensure idempotency, simplified NTP/ACL setup and config fetching playbooks using native Ansible modules to replace issuing raw commands

### **Paid Internship at UCSD ATI| 07/2024 - present**

- Expanded the functionality of the Perl based UCSD ATI(Academic Technology Innovation) stuacct database api, which handles student course provisioning.
- Facilitated smoother testing of airflow DAGs which manage workflow orchestration by utilizing pytest unit test module to mock configurations

- Created tests to validate functionality of Python EKS Docker Images
- Integrated Splunk Logging with stuacct database api

## Projects/Awards

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### IEEE UCSD Quarterly Project | 04/2024 - 06/2024

- With a team of fellow students, built a flask based app displaying all current campus events in a single unified environment
- Utilized selenium to scrape club instagrams with Jupyter Notebook Python scripts

### Deep Learning with Neural Networks with PyTorch

#### Coursera Certificate | 06/2024

- Covered Topics: Logistic Regression/Convolutional Neural Networks, Batch Normalization, Dropout, Xavier Method, Gradient Descent

### FTC Robotics | Folsom, CA

#### Software Captain | 08/2018 - 03/2022

- Mastered Java and Android Studios to tackle hardware-software interface challenges with motion profiling, computer vision, and controlling custom made hardware components,
- 2022 NorCal Super Regional Qualifier, medaled as part of finalist alliance.
- **Think Award** for overcoming engineering challenges, **Inspire Award** for outreach.

### CyberPatriots Club | Folsom High School, CA

#### Secretary, President | 08/2019 - 01/2022

- Proficient in network configuration/security through Cisco Packet Tracer using official Cisco training course
- Achieved Rank 45(State)/110(Nat.) out of 4,801 teams, Platinum Level 2020-2022, Semifinal Qualifying Award 2022

## Leadership Skills

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- At **UCAR**, I worked in the NETS team with both student interns and full-time network engineers where I showed initiative in developing innovative approaches to solve challenging problems of the expansive UCAR network
- **UCSD ATI**, I worked with a team of student and full-time developers where I leveraged my versatile experience to solve diverse problems in databases handling student course information
- In **FTC Robotics**, as software team captain, I mentored new members in the software side of robotics creating a robust team dynamic which achieved significant success in competitions
- As **CyberPatriot Club President**, I managed the NorCalCyber Mayor's Cup and continued club operations despite unexpected challenge of advisor leaving

## Technical Skills

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### Programming Languages

- Java, Python, Perl, C, C++, Javascript, YAML, Assembly

### Software

- Android Studios, Visual Studios, Cisco Packet Tracer, Computer Vision/EOCV, Motion Profiling, Linux Terminal, AKIPs Networking Monitoring, Ansible, MATLAB, Jupyter Notebook, Selenium, Pytest, Junit, Emacs, PyTorch, Perl DBI, Docker, scikit-learn

### Networking Skills (CyberPatriots and UCAR)

- Configuring routers/switches, IPv4 and IPv6 addressing/routing, ACL Firewalls, VLANs, Inter-VLAN routing, OSPF, DHCP, NAT, SSH protocols, SNMP, CDP, LLDP, DNS, automating shell commands, NTP, ACL