Diana Issatayeva

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EDUCATION

UC San Diego *Dec 2021*
BS: Computer Science
GPA: 3.68

SKILLS

C / C++ / Java / Python
Git, Linux, UNIX, Bash
HTML / JavaScript / SQL
IPv6, STP, LLDP, BGP, ISIS, OSPF
Agile, BDD, CI, SRP, unit testing, integration testing, object mocking, basic oop design, dependency injection, design by contract

HONORS

2021 Computer Science Honors
2018-20 Provost Honors

REFERENCES

Mia Minnes: Professor @UCSD
minnes@eng.ucsd.edu
Paul Cao: Professor @UCSD
yic242@eng.ucsd.edu

ORGANIZATIONS

2018-20 Intramural Basketball
2018-20 Women in Computing

EXPERIENCE

Project Lead

FlapJS WebApp — Jan 2020 - Present

- Lead a web developers' team of 6. Created a tool to help students analyze formal languages and automata. Used by 50 students each quarter.
- Recruited and trained new members, set goals and managed deadlines.
- Conducted UI studies to evaluate and improve usability of the application.

Research Assistant

San Diego Supercomputer Center — Apr 2019 - Mar 2020

- Automated configuration of jobs to be run on a time-sharing system.
- Created a web form for researchers to specify key job parameters: storage and computational capacity. Containerized the job and deployed it on HPC system.
- Used: Python Flask, Docker, Kubernetes and metrics visualization tools to evaluate processes resource demands.
- Presented my work in meetings and in written reports.

Teaching Assistant

Jacobs School of Engineering — Sep 2019 - Jun 2020

- Instructed Data Structures and Discrete Mathematics courses.
- Collaborated with instructional team to coordinate a class of 200+ students.
- Lead discussion sections, resolved student misconceptions, designed examples to demonstrate abstract concepts and assessed homework.
- Organized and lead LaTeX workshops for freshmen.

PROJECTS

Network simulations

Course Project — Jan 2021 - Mar 2021

- Implemented transport and network protocols of TCP/IP stack.
- Incorporated framing, error, detection, retransmission and flow control to handle lossy unreliable low-capacity links.
- Designed frame headers, implemented CRC-8 and sliding window ARQ scheme with selective retransmission.
- Wrote router software to process packets. Analyzed raw Ethernet frames and implemented support for ARP, ICMP, IPv4 protocols.
- Used Mininet VM to emulate the network, tcpdump with wireshark to troubleshoot and monitor packet traffic.

Web Attacks

Course Project — Sep 2020 - Dec 2020

- Wrote exploits to corrupt memory in programs written in unsafe languages like C. With GDB analyzed control flow and crafted ROP gadgets to overflow and corrupt the run-time stack.
- Incorporated memory isolation with sandboxing tools to protect against the above attacks.
- Worked with UNIX permission model.
- Analyzed following attacks and related protection methods: Cross Site Request Forgery (CSRF), Command, Code, SQL injections, Cross Site Scripting (XSS).

RELEVANT COURSEWORK

- Data Structures
- Object-Oriented Design
- Software Engineering
- Computer Networks
- Statistical Methods
- Computer Security
- Operating Systems
- Software Tools and Techniques
- Computer Architecture
- System Programming
- Programming Languages
- Theory of Computability
- Design and Analysis of Algorithms
- Introduction to Machine Learning