Amirsadra Abdollahi

amirsadra.abdollahi@sharif.edu
abdollahiamirsadra@gmail.com
+98 933-377-9699
github.com/amirsadraabdollahi
linkedin.com/in/amirsadra-abdollahi
amirsadraabdollahi.com

Education

- **Sharif University of Technology** — Tehran, Iran
  B.Sc. in Computer Engineering — *Sep. 2019 - Expected May. 2024*
  GPA: ***18.91/20*** *(3.93/4.00)*

Research Interests

- **Software Engineering**
- **Software Architecture and Design**
- **AI for Software Engineering**
- **Empirical Software Engineering**

Research Experience

Title Generation Project — Sharif University of Technology, Tehran, Iran

- *Research Assistant at the Intelligent Software Engineering (ISE) Lab* — *Sep. 2023 - Present*
  Supervisor: Prof. ***Heydarnoori***
  - Topic: Generating title for GitHub issues
  - Conducting research on the automatic generation of titles for GitHub issues, a critical aspect of efficient issue tracking and resolution.
  - Compiled a substantial dataset of issues sourced from prominent Java repositories to facilitate comprehensive analysis and model training.
  - Developed and optimized encoders and decoders using neural network architectures, enhancing the accuracy and efficiency of title generation.
  - Employed Large Language Model (LLM) tools to preprocess issue content, extracting relevant features for subsequent analysis and model input.

Work Experience

- **Cafe Bazaar**
  Software Engineer — *Jan. 2022 - Present*
  - Installed, configured, and maintained various cloud-native tools, including GitLab, Sentry, and Prometheus, within a Kubernetes cluster, ensuring optimal performance and reliability.
  - Played a pivotal role in developing and enhancing the Gateway system, responsible for efficiently managing and processing incoming requests to the cluster, acting as a robust load balancer and middleware for custom preprocessing tasks.
  - Designed and Developed high-availability backend services, explicitly focusing on payment processing to ensure secure and accurate transactions, a rewards system where users could accumulate points and exchange them for discount codes, and facilitated seamless billing distribution to cross-functional teams in Python and Golang.

Academic Projects

- **Object-Oriented System Design** source-code — Spring 2023
  - Developed a comprehensive social media platform, enabling users to create accounts, establish channels, publish diverse multimedia content, join channels, appoint administrators, and implement a payment system for accessing premium content.
  - Applied a thorough object-oriented design approach, integrating the UML modeling language to ensure robust software architecture.
  - Implemented the Unified Process (UP) methodology within a collaborative team environment, fostering effective project management and coordination.
  - Leveraged the Django framework for the backend service, utilizing PostgreSQL for efficient database management, implementing essential features and functionalities, and established a CI/CD pipeline to streamline the deployment process onto a remote server.

- **Data and Network Security** source-code — Spring 2023
  - Designed and implemented a secure messenger application in Python, focusing on robust data and network security measures.

- Established secure connections between clients and servers utilizing socket programming, ensuring encrypted and reliable communication channels.
- Implemented encryption techniques using private and public keys to safeguard the confidentiality and privacy of client messages.

- **Computer Simulation** source-code Spring 2023
  - Developed a Python program to simulate a dynamic queue-based system, offering valuable insights into system performance and efficiency.
  - Considered a diverse range of parameters, including load balancing algorithms, the number of queues, and probability distributions for both incoming customers and the amount of time required for servers to complete tasks.

- **Operating Systems** source-code Fall 2022
  - Worked on enhancing an existing project, extending the ECS150 file system in C.
  - Improved the performance by integrating a cache block into the read and write processes.
  - Addressed issues related to file deletion and editing, enhancing the file system's reliability and functionality.

- **Systems Analysis and Design** source-code Fall 2022
  - Designed and developed a simplified version of Google Drive, offering account management, multimedia upload and download capabilities, and content sharing among users.
  - Utilized the Django framework to build a robust backend service, enhancing the application's functionality and security.
  - Employed Docker for containerization, ensuring seamless deployment and scalability of the application.

- **Advanced Programming** source-code Spring 2020
  - Created a feature-rich e-commerce platform, enabling store creation, product selling, buying from other sellers, and user-to-user communication.
  - Utilized the MVC architecture with the Java programming language, ensuring a structured and maintainable codebase.

Teaching Assistant Experience

- **Programming Languages**, Prof. Izadi *Fall 2023*
- **Software Engineering**, Prof. Rivadeh *Fall 2023*
- **Systems Analysis and Design**, Prof. Aghamohammadi *Fall 2023*
- **Machine Learning**, Prof. Sharifi-Zarchi *Fall 2022*
- **Artificial Intelligence**, Prof. Rohban *Fall 2022, Spring 2022*
- **Probability and Statistics**, Prof. Najafi *Spring 2021*
- **Advanced Programming**, Prof. Fazli *Fall 2020*

Test Scores

TOEFL: 106 (Reading: 28, Listening: 30, Speaking: 21, Writing: 27)

Honors and Awards

- **Ranked 121$^{\text{th}}$ in the Nation-Wide University Entrance Examination**
  B.Sc. in Mathematics and Physics, among over 164,000 participants, 2019, Iran

- **Member of the Sharif Basketball Team**
  - Won 1^{st} place in Iran 3x3 competition between all universities.
  - Won 3^{nd} place in Tehran and found our way to the nationwide Olympiad.

Technical Skills

- **Programming Languages**: Python, Go, C, C++
- **Cloud Technologies**: Kubernetes, Ceph, Prometheus
- **Web Development & Database**: Django, Gin, Postgresql, MongoDB
- **Miscellaneous**: Git, Linux, Docker, LaTeX