Homayoon (Hue) Alimohammadi
Software Engineer

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SUMMARY

I'm a Software Engineer with years of experience in various programming languages such as **Golang** and **Python**, designing, developing, deploying and maintaining scalable **Microservices** and **Cloud-Native** applications under **8,000+ requests** per second on cloud environments. I've architectured data-intensive applications with complex data models on various **Database** technologies. Also, I've managed and provisioned **Kubernetes** clusters on public, private and self-hosted **Infrastructure**. Throughout my career, I've had the privilege of collaborating with leading **International** companies, contributing to impactful projects across diverse industries.

PROFESSIONAL EXPERIENCE

Canonical (The company behind Ubuntu, Juju, Microk8s and many more)   London, England | Remote
Software Engineer   Jun 2024 - Present

- Developed **Kubernetes** controllers for **Cloud-Native** and CNCF conformant applications in Golang and Python.
- Spearheaded the design and development of in-place upgrades of Cluster API supporting over **25,000 node** clusters.
- Provisioned large-scale Kubernetes clusters on **Linux** machines.
- Incorporated cloud infrastructures like **AWS**, **Google Cloud** and MAAS to ensure cloud agnostic implementations.
- Heavily contributed to the Canonical Kubernetes, Microk8s and Cluster API projects. Designed and developed new features, resolved issues, improved performance, efficiency and also the overall UX of these projects.

Divar (The biggest Persian classified ads platform with over 65M active users, alternative for eBay)   Tehran, Iran
Software Engineer   Jul 2022 - Jun 2024

- Architectured, engineered and maintained **gRPC** and **RESTful** microservices written in Golang and Python.
- **Led** a team of **6** engineers to re-design, implement and release core business **Microservice** leading to a 60% reduction in average latency while providing a 99.99% uptime and a 95% reduction in response size.
- Achieved over 4 successful product releases coordinating with **Stakeholders**, cross-functional and **Product** teams.
- Implemented **CI/CD** pipelines and e2e tests to ensure **zero down-time** releases.
- Implemented advanced data models and **Database** schemas to address data integrity and consistency of data-intensive applications with more than **8,000 requests** per second.
- Architectured robust and scalable microservices with domain-driven design and service-oriented architecture.
- As an **SRE**, decreased call center load by 10% due to significant improvements in service reliability and observability.

CNAM (Artificial Intelligence research center)   Tehran, Iran
Software Engineering Intern   Feb 2021 - Jul 2022

- Directed **AI** applications and microservices in Python and Django with Docker.
- Integrated **Machine Learning** and **Computer Vision** with Materials Science and Engineering. Co-authored **3 journal papers** that delve into the practical applications of Machine Learning in the field of Materials Science. (Google Scholar)

AI Medic (Artificial Intelligence research center)   Tehran, Iran
Software Engineering Intern   Apr 2020 - Feb 2021

- Designed and developed an **AI** application in Python for medical use cases.
- **Supervised** and **Mentored** and guided over 20 interns through structured training programs.
- Researched and implemented models to compete in the Medical Decathlon and outperformed more than 200 competitors.
- Incorporated PyTorch to train a CNN for semantic segmentation of MRI images with a DICE score of 89.14%.

EDUCATION

Master of Science in Artificial Intelligence
K.N Toosi University of Technology (Top university in the field of AI in Iran)

Tehran, Iran
Sep 2023 - Present

- Ranked top 1% in the nation-wide entrance exam.
- Ranked top 3 in various courses, such as: Statistics, Machine Learning, Deep Learning, Revolutionary Algorithms, Computer Vision, Recommender Systems and Natural Language Processing.

Bachelor of Science in MSE
Sharif University of Technology (The best science and engineering university in Iran)

Tehran, Iran
Sep 2018 - Sep 2022

- Ranked top 0.5% in the nation-wide entrance exam.
- Co-authored **3 journal papers** that delve into the practical applications of Machine Learning in the field of Materials Science. (Google Scholar)

SKILLS

- Golang, Python, DevOps, Git, Kubernetes, Docker, CI/CD, SRE, Nginx, Linux, Helm, Grafana, Prometheus, AWS, Openstack, Protocol Buffers (Protobuf), API design, gRPC, REST, Django, Bash, PowerShell, Jenkins, GitLab, GitHub.
- Databases, Message Brokers, PostgreSQL, Redis, MongoDB, RabbitMQ, Kafka, Event Sourcing.
- AI, Deep Learning, Machine Learning, NLP, Computer Vision, Data Science, Elasticsearch, Logstash, Kibana, ELK.
- Software Architecture, System Design, Reliability and Observability, Data Modeling and Database Design.
- Software Engineering, Backend Engineering, Backend Development, Debugging, Computer Science, Design Patterns, NoSQL, SQL, Security, Version Control, VCS, Version Control Systems, R&D, Research and Development, Azure, GCP, AI Platform, MySQL, Cassandra, SaaS, KaaS, IaaS, IaaC, IaC, AWS CloudFormation, Networking, FastAPI, OAuth, SSO, Swagger, Generative AI, Ansible, Terraform, Protocols, Firewalls.
- Communication, Time management, Problem-solving, Adaptability, Flexibility, Interpersonal skills, Sense of ownership.
- Fluent in English.

PUBLICATIONS

- Multilayered mesoporous composite nanostructures for highly sensitive label-free quantification of cardiac troponin-I *(Biosensors | M. Saeidi et al.)* (**Link**)
- SCAPS Empowered Machine Learning Modelling of Perovskite Solar Cells: Predictive Design of Active Layer and Hole Transport Materials *(Photonics | M. Hasanzadeh Azar et al.)* (**Link**)
- Functionalization of metal-organic frameworks with metallic nanoclusters for ultra-sensitive monitoring of morphine in biological fluids *(Biosensors and Actuators B: Chemical | M. Saeidi et al.)* (**Link**)

CONTACT

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