

Anil Kumar

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EDUCATION

Arizona State University:	Masters of Science, Computer Science	GPA 4.0/4.0	Dec 2022
National Institute of Technology Hamirpur:	Bachelors of Technology, Computer Science	GPA 3.32/4.0	May 2017

SKILLS

- **Programming languages:** Python, C++, Go, JavaScript, Java, SQL, MySQL, PostgreSQL
- **Technologies/Frameworks/Functional Skills:** Docker, Kubernetes, NodeJS, React, jQuery, HTML5, CSS, Tizen SDK, REST API, HELM, Google Cloud Platform, AWS, Jira, Hadoop, Spark
- **Other skills:** Machine Learning, Blockchain, Data Structure and algorithms, Linux, Agile Methodology

EXPERIENCE

Graduate Research Assistant, Arizona State University	Jan 2021 - Present
<ul style="list-style-type: none">• Developed system for performance simulation of blockchain systems using Petri nets models to study behavior under suspicious environments.• Found 28% increase in key performance indicators of blockchain network under malicious behavior.• Developed Digital Twin management system for real-time anomaly detection in IoT devices over Hyperledger Fabric.• Developed off-chain and on-chain solutions using Smart Contracts for real-time monitoring of IoT devices• leading presentations on behalf of Blockchain Research Lab, ASU to financial sponsors.	
Software Engineer, Samsung Research, India	July 2017 - Dec 2020
<ul style="list-style-type: none">• Developed India’s leading video and music streaming web applications (Hotstar, Jio Cinema, Gaana, and Zee5) for Smart TVs which are available in the Indian market, having over 50 million active users.• Integrated Samsung Tizen TVs applications with voice Assistant(Bixby) commands by invoking APIs from the application layer to the platform to provide extended Bixby features in applications.• Developed In-App search for Music and News applications on Samsung TVs for the Indian market.• Developed a web application and mapped onto channel number on Tizen TV OS using a framework - TV Plus, the prototype was selected globally to be presented in the “Samsung Developer Conference” Nov. 2018, San Francisco.	
Software Developer Intern, MutoHQ Pvt. Ltd., India	May 2016 - Aug 2016
<ul style="list-style-type: none">• Developed a library to continuously monitor the files/directories and run tasks based on the changes made to the files under observation, for continuous integration and development.• Utilized inotify (on Linux), and FSEvents (on Mac), and used the fnotify package under the hood.	

PATENT

A method for adaptive action learning for unstructured utterances in voice assistants (application no. 202011049495)	
<ul style="list-style-type: none">• Detected the most relevant action for the given unstructured utterance by extracting voice features using Dynamic Bayesian Network.• Performed reinforcement learning to update the global model and to avoid the default action for utterances.	

PUBLICATIONS

- “Performance simulations of blockchain systems”, Simulation Modelling Practice and Theory **Nov 2021**

PROJECTS

Fingerprinting Machine learning Algorithms [Python, LSTM]	Sep 2021
<ul style="list-style-type: none">• Developed RNN model for algorithms classifications for Food Scanner device, based on the usage statistics data and kernel calls to verify results of a food scanner.	
Banking System [JavaScript, HTML, CSS, Python, AWS, Sql, Machine learning]	April 2021
<ul style="list-style-type: none">• Developed an end-to-end Banking System website involving full stack development (including features like a chatbot, OTP) to counter and defend all the security vulnerabilities.• Continuous reporting and analysis were performed on the bank accounts and hosted over AWS.	
Healthcare Products Authenticator [Hyperledger Fabric]	Feb 2019
<ul style="list-style-type: none">• Tracked the status of the product at every intermediate stage using an immutable ledger on blockchain peers.• Achieved Supply chain transparency and automated settlements by recording movement of products across the network using Hyperledger fabric-based blockchain network.	

LEADERSHIP & ACHIEVEMENTS

- Central Sector Scheme of scholarship | Among top 0.01% in physics among 9,00,00 candidates
- Treasurer for the Dance club | NIT Hamirpur
- Co-administrator, Teaching Faculty at NGO | Literacy Mission NIT Hamirpur
- National Level Handball player | JNV Una, India