

SHASHANK KUMAR SINGH

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EDUCATION

M.S. in Computer Science

Arizona State University, Tempe, AZ

Dec 2026 (expected)
GPA: 3.78 (after 1st semester)

Relevant coursework: Artificial Intelligence and Machine Learning

B.Tech in Electrical and Electronics

Manipal Institute of Technology

Nov 2023
CGPA: 8.01 / 10.00

Relevant coursework: Minor in Computing and Interactive Programming in Python

SKILLS

Languages & Tools: Python, C, C#, C++, JavaScript, HTML/CSS, SQL, MATLAB, Docker, Git

Frameworks & Platforms: .NET 6, AngularJS, AWS, Azure

Data & Analysis: Pandas, NumPy, Power BI, Alteryx

Systems: Cryptography (AES, RSA), Network Security, server management, RESTAPI services, PostgreSQL

TECHNICAL EXPERIENCE

Bajaj Finserv , Pune, India: Software Developer

Jan 2023 – Dec 2024

- Developed and deployed 3+ full-stack web applications for Mandate and Account Aggregator financial services using .NET Framework and AngularJS, supporting 50K+ monthly transactions.
- Engineered and optimized 20+ backend REST APIs and ETL pipelines, reducing registration processing time by 35%.
- Automated CRUD operations across 5+ enterprise database modules, improving internal operations efficiency by 40%.

KPMG , Gurgaon, India: Software Development Intern

May 2022 – Jul 2022

- Built a Selenium + Python-based scraping pipeline that extracted and analyzed 10K+ Amazon product reviews across more than 100 SKUs.
- Developed ETL workflows in Alteryx processing over 200K data points weekly and created 5+ Power BI dashboards presented to stakeholders.

Madras Scientific Research Foundation , Remote: Software & AI Content Intern

Sep 2021 – Nov 2021

- Prototyped 2 AI-based tools (facial recognition and chatbot) using OpenCV, scikit-learn, and NLTK with 85%+ accuracy on test data.
- Authored 10+ tutorials and modules for the foundation's educational curriculum.

PROJECTS

Dual Illumination Estimation for Exposure Correction, [Github]:

- Engineered a fully automated exposure correction pipeline using dual Retinex-based illumination estimators, achieving a PSNR gain of +4.4 and SSIM improvement of +0.13 across 100+ real-world images.
- Integrated Mertens' multi-exposure fusion, enabling seamless blending of under-/over-exposed regions in <1.5s per image.
- Conducted 200+ grid search trials to optimize hyperparameters and visualized comparative results using Python (OpenCV, NumPy, matplotlib).

Secure Messaging Protocol, [Github]:

- Designed and implemented a Signal-based secure messaging protocol handling 3-party encrypted communication with forward secrecy.
- Implemented cryptographic primitives (AES-GCM, X3DH, HKDF) supporting 100+ encrypted message exchanges per session with zero data leakage.
- Built a modular relay server in Python to handle key exchange and message transmission, achieving <300ms latency on local networks.

ACADEMIC & VOLUNTEER ACTIVITIES

ISSC Volunteer, Arizona State University

Feb 2025 – Mar 2025

Facilitated logistics and technical support for multiple student-led diversity and inclusion events directly impacting the engagement of over 200 students and fostering a more inclusive campus environment.