

Keerthana Purushotham

keerthanap0808@gmail.com | +1 858-203-8957 [PST] | H1B Lottery Selected for FY2026

 LinkedIn |  Github |  Papers & Citations |  IEEE Member |  UCSD Alumni |  AUDIO SUMMARY 13m44s

SKILLS

- **Code** – Rust | Python | JavaScript | Typescript | React | C | Pytorch | C# | C++ | Java | bash | Git | CDK | SQL | ARM & Cross-tooling. | Linux kernel & iOS.
- **Tools** – DynamoDB, S3, APIGateway, CloudWatch, CDK, CloudFormation, Lambda, IAM, etc | TensorFlow & Keras | Kubernetes | System Performance.
- **Logic** – REST, Serverless & Network | RNNs, CNNs, Encoders, Attention | Full-stack | Advanced Math & Statistics | NLP, Transformers & GenAI | DevOps.
- **Security** – CVE Analysis- CVSS, NIST, CISA, Mitre, Debian, Redhat, Suse, FIPS | Threat Modeling & Remediation | Adversarial Attacks & Mitigation.

EXPERIENCE

- A) Amazon Web Services, Software Developer** | EC2, Amazon Linux Vulnerability Mgmt. | Seattle, WA. **Sep 22'–Now (2.5 years)**
1. **Security & Operations:**
 - a. **Linux CVE Management & Response** – Managed Linux & kernel CVE detection with a strict 2-day SLA, handling 1,300+ CVEs, including Sev-2 incidents and remediation planning.
 - b. **Vulnerability Patching** – Fixed 15+ security vulnerabilities in Amazon Linux packages, some requiring FIPS compliance.
 - c. **Knowledge Sharing & Documentation** – Maintained critical runbooks and mentored new developers.
 2. **Design & Development:**
 - a. **Cloud & API Architecture** – Built privacy-enhanced RESTful features on AWS using Rust, Python, and React, leveraging multi-threading, async functions, and AWS services (DynamoDB, IAM, S3, API Gateway, CDK, CloudFormation, etc.).
 - b. **Infrastructure Migration** – Migrated Rust-based API client infrastructure from one Service to another.
 - c. **Advanced Networking & Monitoring** – Engineered nested CloudWatch alarms for real-time request throttling, integrating AWS DevOps automation & ticketing APIs for improved infrastructure resilience.
 3. **Analytics & Automation:**
 - a. **Automated CVE Evaluations** – Designed AI-driven CVE scoring and recommender systems, integrating AmazonQ-based chat-bots to reduce zero-day SLA targets from two days to near real-time.
 - b. **Security focused NLP & Statistics** – Built an automated CVE impact analysis algorithm, applying NLP & time-series analytics to enhance security risk assessment and reduce manual workloads for customers.
 - c. **Scripting** – Automated repetitive steps via custom scripts, saving approximately one week per month in manual overhead.
- B) BP Logix, Software Development Intern** | San Diego, CA. **Jun 21'–Sep 21' (4 months)**
1. **Version Control Migration:** Led the transition from TFVC to Git, creating a comprehensive run-book for seamless replication.
 2. **Code-base Contributions:** Delivered two bug fixes in C# using VS Code.
 3. **DevOps & Agile Exposure:** Engaged in Scrum processes, enhancing understanding of Agile development and Process Director.
- C) Cleo Communications, Software Development Intern** | Bengaluru, India. **Summer 19' & Feb 20'–Dec 20' (11 + 3 months)**
1. **ML-Powered Data Transformation:** Built a pipeline to map features across disparate datasets, evaluating RNNs, Logistic Regression, and Fuzzy Logic (which performed best).
 2. **Product Testing & Debugging:** Conducted cross-service unit testing on CIC Clarify (Node & Cluster); documented bugs via Postman.
- D) Samsung R&D Institute India, Research Intern** | Bengaluru, India. **Mar 19'–Nov 19' (8 months)**
1. **Web Crawling & Data Extraction:** Developed subject-specific crawlers to extract social media data for research and analysis.

PUBLICATIONS – [41 Cites from 2021 to Mar 25']

Google Scholar | **Scopus Author ID:** 57221594595 | **ORCID record:** 0009-0000-8197-704 | **IEEE Author ID:** 37088644371 | **ResearchGate**
■ Reviewed 2x IEEE papers in 2025.

1. Cloud Storage Security Risks, Practices & Measures: A review. | 32 cites | **IEEE Xplore** – Jan 1, 2020.
2. Image de-noising using Auto-encoders & Spatial Filters for Gaussian Noise. | 6 cites | **IEEE Xplore** – Mar 15, 2021.
3. Context-Based Filtering of Conversational Data. | 3 cites | **ACL** – May 22, 2021.

EDUCATION

- A) University of California - San Diego, M.S. Computer Science** | GPA 3.8/4.0 | San Diego, CA. **Dec 20'–Jun 22' (2 years)**
1. **Graduate Teaching Assistant** : Mar 21 – Jun 22', 16 months
 - a. [Spring 22'] **Advanced Data Structures** – class of 300+ students with Paul Cao & Dr. Debashis Sahoo.
 - b. [Winter 22'] **Graduate Algorithm Design & Analysis** – class of 500+ students with Dr. Russel Impagliazzo.
 - c. [Fall 21'] **Graduate Algorithm Design & Analysis** – class of 500+ students with Dr. Ramamohan Paturi.
 - d. [Spring 21'] **Computer Organization & Systems Programming** – class of 500+ students with Bryan Chin.
 2. **Grace Hopper Scholar** : 2021–2022, 1 year
 3. **Projects & Graduate Course Work** : Jan 21'–Jun 21', 6 months
 - a. **Neural CRF NER Tagger** – Built Bi-LSTM-CRF models for Named Entity Recognition (NER), beating baseline in sequence labeling.
 - b. **Neural CRF for Constituency Parsing** – Built CKY-based constituency parser for PTB dataset, optimizing partition fn on GPU.
 - c. **Ubuntu System Performance** – Analyzed CPU, memory, scheduling, networking & FS for metrics like efficiency, latency etc.
 4. **Graduate Research Apprentice** : Jan 22'–Jun 22', 6 months | NLP & Recommender Systems Lab advised by Dr. Julian McAuley
 - a. **NLP in Finance & Stats:** Researched stock prediction via text inference & trend analysis; specialized in equities, options & futures.
- B) M.S. Ramaiah Institute of Technology, B.E. Computer Science** | GPA 9.0/10.0 | Bengaluru, India. **Aug 16'–Aug 20' (4 years)**
- a. **Technical Awards** : Best Final Year Project 2020 MSRIT & Samsung PRISM Research Program Finalist 2020.
 - b. **Certifications** : Docker from Microfocus | Deep Learning for Computer Vision from NVIDIA | Data Science for Engineers, NPTEL & Internet of Things using Arduino & Raspberry Pi.
 - c. **Clubs** : Debate Society - British/Asian Parliamentary | Coding Club | Quiz Club | Women's Football Teams: MSRIT & VTU (Uni & State).
- C) Chethana Pre-University College, Second half of High School** | State Boards: 90% | Bengaluru, India. **Apr 14'–April 16' (2 years)**
- a. **Awards** : International Math Olympiad 2015 (IMO) - Silver Medal - organized by the Science Olympiad Foundation (SOF)
- D) Sophia High School, Elementary to Sophomore year** | ICSE Boards: 92% | Bengaluru, India. **Jun 01'–Mar14' (13 years)**
- a. **Awards** : MUN, debate, theatre, school 1st rank & state top 50 state several times each year for international olympiads organized by the Science Olympiad Foundation (SOF), and athlete in field / track events. Received the following medals - IMO (Math): 3xGold, 1xSilver | ISO (Science): 4xGold, 1xSilver | IEO (English): 1xSilver, 1xBronze | Shotput: 1xGold | Discus Throw: 1xSilver.