Google-LM **Keerthana Purushotham** – *Winter* 2025 – [ALL LINKS] *github.com/keerthanap8898/bio*
keerthanap0808@gmail.com | +1 858-203-8957 [PST] | H1B FY2026 | Schedule 30m to speak | Portfolio
LinkedIn | GitHub | Citations | IEEE Member | UCSD Alumni | Substack | Medium | Audio 11m57s

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 | Async, load-balancing & low-latency | Full-stack | Advanced Math & Statistics | ML, Deep-Learning, NLP & GenAI.
- ***Security*** – CVE Analysis- CVSS, NIST, CISA, Mitre, Debian, Redhat, Suse, FIPS | Threat Modeling & Remediation | Adversarial Attacks & Mitigation | CISO.

Experience

A) Amazon Web Services (*AWS*) – *Software Developer* | *EC2, Amazon Linux Threat Mgmt.* | *Seattle, WA.* **Aug 22'–Now (3 *yrs.*)**

1. **Security & Operations :** *distros* - AL12, AL1, AL2, AL2023 - (*incl.* AL2023-*desktop* & *all* EC-2 *system-packages*).
   - ① ***Linux CVE Management & Response*** – Managed Linux & kernel CVE detection with a strict 2-day SLA, handling 1,475+ CVEs, including Sev-2 incidents and remediation planning.
   - ② ***Vulnerability Patching*** – Fixed 15+ security vulnerabilities in Amazon Linux packages, some requiring FIPS compliance.
   - ③ ***Knowledge Sharing & Documentation*** – Maintained critical runbooks and mentored new developers.
2. **Design & Development :** *AWS - Linux docx.* [*docs.aws.amazon.com/linux*]
   - ① ***Full-stack & Operational features*** – On top of triaging, mitigating, resolving complex bugs & bottlenecks across 2 legacy services; I pushed 12+ React features for a 3rd, new edge-compute APIGW service with role-specific access, to collaboratively deliver a high-frequency, data-intensive UI to provide real-time CVE status + related data; all including unit, integration & regression test coverage;
   - ② ***Cloud Development & Infrastructure Migration -*** Migrated Rust-based client infra coupled with Py Lambdas, across services & engineered nested CloudWatch alarms for edge-compute based rate-limiting, request throttling, etc with robust, integrated DevOps.
   - ③ ***Networking & Concurrency Architecture*** – Built privacy-enhanced RESTful features & secure client-side behaviors across distributed AWS infrastructure across services (DynamoDB, IAM, S3, APIGW, CloudFormation, etc). This includes several dense multithreaded + async workflows (Rust, Py, Js), each optimized for resilience against all classes of network & edge-case failures.
3. **Analytics & Automation :** *Amazon Linux Security Centre* CVE *advisories* (ALCE) [*alas.aws.amazon.com/faqs.html*]
   - ① ***Automated CVE Evaluations*** – Designed AI-driven CVE scoring and recommender systems, integrating AmazonQ-based chatbots to reduce zero-day SLA targets from two days to near real-time.
   - ② ***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.
   - ③ ***Scripting*** – Automated repetitive steps via custom scripts, saving approximately one week per month in manual overhead.

B) BP Logix [*bplogix.com*] – ***Software Development Intern*** | ***San Diego, CA.*** **Jun 21'–Sep 21' (4 *mos.*)**

1. **Version Control Migration:** Led the transition from TFVC to Git, creating a comprehensive run-book for seamless replication.
2. **DevOps & Agile Exposure:** Delivered two bug fixes in C# using VScode, engaged in Scrum processes, enhancing understanding of Agile development, KPIs & release goals.

C) Cleo Communications [*cleo.com*] – ***Software Developer*** | ***Bengaluru, IN.*** **Summer 19' & Feb 20'–Dec 20' (3 + 11 *mos.*)**

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 India – ***Research Intern*** | ***Bengaluru, IN.*** **Mar 19'–Nov 19' (8 *mos.*)**

1. **Web Crawling & Data Extraction:** Developed subject-specific crawlers to extract social media data for research and analysis.

Publications & Research Projects — [*approx.* 50 *Cites from* 2021 *to September* 2025]

Google Scholar | ***Scopus Author ID:* 57221594595** | ***ORCID record:* 0009-0000-8197-704** | ***IEEE Author ID:* 37088644371** | ***ResearchGate***
→ *Reviewed* 8+ *IEEEpapers in* 2025. | → *Member of CWE.mitre.org/.*

1. **Text To Video App** – *Async API with the Genmo Mochi-1 model hosted on* 8×*H100 GPU Kubernetes work nodes.* | **LinkedIn** | **GitHub** – *WIP.*
2. **Accuracy Is Not Enough** – *Confusion Matrix Metrics That Actually Work in CVE Impact Prediction.* | **LinkedIn** | **Substack** | **Medium**
3. Cloud Storage Security Risks, Practices & Measures: A review. | **40** cites | **IEEE Xplore** – *Jan* **1, 2020.**
4. Image de-noising using Auto-encoders & Spatial Filters for Gaussian Noise. | **7** cites | **IEEE Xplore** – *Mar* **15, 2021** | **GitHub.**
5. Context-Based Filtering of Conversational Data. | **2** cites | **ACL** – *May* **22, 2021** | **GitHub.**

Education

A) University of California, San Diego (*UCSD*) – *M.S. Computer Science* | *GPA 3.83/4.00* | *San Diego, CA.* **Dec 20'–Jun 22' (2 *yrs.*)**

[AI-&-Systems] – **Courses :** *Algorithm-Design* | *adv. Data-Structures* | *Operating-Systems* | *Computer-Organization & System-Programming-(Arm)* | *OS-Security* | *ML-algorithms* | *Probabilistic-reasoning* | *Recommendation-Systems & Web-mining* | *adv. Statistical-NLP* | *StructuredPrediction-in-NLP* | *Ethics,society & Data-Sc.*

1. **Graduate Teaching Assistant : *Mar 21 – Jun 22',*** 16 *mos.*
   - ① [***Spring 22'***] ***Advanced Data Structures*** | *CSE* 100 – *class of 300+ students with Paul Cao & Dr. Debashis Sahoo.*
   - ② [***Winter 22'***] ***Graduate Algorithm Design & Analysis*** | *CSE* 202 – *class of 500+ students with Dr. Russel Impagliazzo.*
   - ③ [***Fall 21'***] ***Graduate Algorithm Design & Analysis*** | *CSE* 202 – *class of 500+ students with Dr. Ramamohan Paturi.*
   - ④ [***Spring 21'***] ***Computer Organization & Systems Programming*** | *CSE* 30 – *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 *mos.*
   - ① ***[NLP] Neural CRF NER Tagger*** – Built Bi-LSTM-CRF models for Named Entity Recognition (NER), beating baseline in sequence labeling.
   - ② ***[NLP] Neural CRF for Constituency Parsing*** – Built CKY-based constituency parser for PTB dataset, optimizing partition fn on GPU.
   - ③ ***[OS] Ubuntu System Performance*** – Analyzed CPU, memory, scheduling, networking & FS for metrics like efficiency, latency etc.
4. **Graduate Research Apprentice : *Jan 22'–Jun 22',*** 6 *mos.* | ***NLP & Recommender Systems Lab advised by Dr. Julian McAuley***
   - ① ***NLP in Finance & Stats*** – Researched stock prediction via text inference & trend analysis; specialized in equities, options & futures.

B) Ramaiah Institute of Technology (*MSRIT*) – *B.E. Computer Science* | *GPA 9/10* | *Bengaluru, IN.* **Aug 16'–Aug 20' (4 *yrs.*)**

1. **Technical Awards :** ① Best Final Year Project 2020 MSRIT | ② Samsung PRISM Research Program Finalist 2020.
2. **Certifications :** ① Docker: *Microfocus* | ② Deep Learning for CV: *NVIDIA* | ③ Data Sc. for Engineers: *NPTEL* | ④ IoT - Raspberry Pi: *Vocational Course*

C) Other – ***Schooling*** | ***Bengaluru, IN.*** **Jun 01'–Apr 16' (15 *yrs.*)**

1. **Grades :** ① [*Sophia High School*] 10th ICSE Boards: 92% | ② [*Deeksha Integrated IIT Coaching*] 12th Boards: 90%
2. **Awards & Activities :** *MUN, debate, theater, school 1st rank & state top 50 several times between 2010 & 2015 across the annually-conducted, international Olympiads organized by the Science Olympiad Foundation (SOF), athlete in field / track events. Received the following medals -*

① IMO (Math): 3 Gold, 2 Silver | ② ISO (Science): 4 Gold, 1 Silver | ③ IEO (English): 1 Silver, 1 Bronze.