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

in LinkedIn | ⊙ GitHub | 8 Citations | ◆IEEE Member | ✐ UCSD Alumni | 📕 Substack | M 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.*, 3 *mos.*)

  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.* | **Zenodo** – *Oct 24, 2025* | **Github**
  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 for Constituency Parsing* – *github*✎ – Built CKY-based constituency parser for PTB dataset, optimizing partition fn on GPU.
     ②*NLP* | *Neural CRF NER Tagger* – *github*✎ – Bi-LSTM-CRF models for Named Entity Recognition (NER), beating baseline in sequence labeling.
     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.