

Prachotan Reddy Bathi

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EDUCATION

- University of Southern California** (Honors Expected) Los Angeles, California
MS in Computer Science **GPA: 4.00/4.00** *January 2023 – December 2024*
 - Coursework: **Operating Systems, Autonomous Cyber-Physical Systems**, Analysis of Algorithms, Database Systems

Manipal Academy of Higher Education (Merit Scholarship) Manipal, India
Bachelors of Technology in Computer Science and Engineering **GPA: 9.3/10** *August 2018 – July 2022*
 - Honors credits: **Advanced Cryptography, Cryptanalysis**, Advanced Database Systems. Social Network Analysis, Networks, **Embedded Systems**, Discrete Mathematics, Human Computer Interfaces, Software Engineering

WORK EXPERIENCE

- University of Southern California** Los Angeles, USA
Student Developer & Technology Consultant *February 2023 – Present*
 - Spearhead management and enhancement of secure web applications for key research labs at USC Rossier School of Education, ensuring seamless operations and adherence to industry standards.
 - Collaborate with interdisciplinary teams, use PM tools (roadmaps, feature prioritization, cost-benefit analysis), talk to external providers, advise the labs on their technology requirements.

Course Producer (Teaching Assistant) *August 2023 – Present*
 - Lead "Explorations in Computing" course for a class of 60, emphasizing foundational computational and algorithmic principles for a deep grasp of digital advancements in social media, web search, video games, and location-based services.

Wells Fargo Bengaluru & Hyderabad, India
Program Associate *January 2022 – December 2022*
 - Developed market risk software tools using micro-services architecture within the Vasara project, contributing to enhanced scalability and efficiency in risk management processes for capital markets.
 - Introduced Mockito framework to enhance testing procedures for transformer classes, creating comprehensive guidelines that streamlined processes and reduced build blockers by 40%.
 - Presented a "6S" (Skills, Scalability, Security, Speed, Stability, and Success) strategy to technology leadership, catalyzing a transformative journey to enhance internal applications' performance and effectiveness.

Rady Faculty of Health Sciences Winnipeg, Canada
Research Engineer & Project Manager (Globalink Research Intern Award Recipient) *May 2021 – January 2022*
 - Directed team of four student engineers, adeptly employing agile tools (Scrum, Jira) to drive impactful project outcomes.
 - Oversaw usability testing and conducted detailed app refinements for the "In Your Shoes" project (React, Django, MongoDB). Analyzed user feedback to guide iterative enhancements, achieving a minimum marketable product.

CURRENT PROJECTS

- Token-Bucket Filter** | [Link](#)
 - Implement a traffic shaper in C, experimenting with race-conditions in multi-threaded processes and signal handling.

Cruise Control and Path Planning Subsystems | [Link](#)
 - Building safety-critical controllers for cruise control and efficient path planning self-driving subsystems.

Weenix Operating System | [Link](#)
 - A UNIX-based OS kernel in C, featuring modern OS elements like processes, threads, virtual file system and virtual memory. Enhanced efficiency with custom system calls and optimized performance using copy-on-write through shadow objects.

Autonomous Stormwater Controls with Active Pollutant Management. | [Link](#)
 - Leading a transformative initiative, harnessing power of reinforcement learning and control systems to seamlessly integrate stormwater models, paving way for autonomous controls, prioritizing real-time pollutant handling.

PUBLICATIONS

- Health Data, Social Media and Privacy...** | Lecture Notes in Networks and Systems, Springer (Proceedings)
Cyber-Physical Robustness Assessment... | EWRI, ASCE Atlanta 2022 (Chapter)
Usability Testing: In Your Shoes Online... | IMSH, San Diego 2024 Accepted
Usability testing of a Web-Based Empathy... | Journal of Medical Internet Research (Paper)

SKILLS

Languages & Frameworks: C, C++, Python, Django, Java, Spring, LATEX, Bash, SQL, React, Angular, ROS
Developer Tools: Git, Jenkins, Jira, Confluence, Figma, Framer, Postman, GDB, Putty, AWS, Azure Suite, Kubernetes, Docker
Other: Arduino, pSoC, Network Simulation (GNS3), WireShark, OSI Model Headers, Formal Specifications, Control Theory, Kernel & Embedded (LPC1768), Project Management
Research: Usability and User Testing, Survey Design, Focus Groups, Heuristic Evaluation, Literature Review, Manuscript Writing

PAST RESEARCH PROJECTS

Project Sociomizer

Advised by Dr. Deepa G

January 2022 – June 2022

- Project Sociomizer is a user-centered tool designed to address anonymity concerns of health care information on social media
- Conducted a pilot study through a survey (n=200) to understand health data privacy concerns and perceptions
- Designed system context diagram and flow chart for the project after a systematic literature review of existing anonymization and encryption techniques.

Cyber-Physical Systems Robustness Assessment

Collaboration with Dr. Yu Liang, University of Tennessee at Chattanooga

August 2021 – November 2021

- Assessed cyber-physical security and robustness of civil infrastructure.
- Identified points of compromise in urban stormwater management involving real-time control based on literature review and components of planning project.

LEADERSHIP & INVOLVEMENT

- Led business development and strategic planning at **LISUS**, an LA based sustainable lithium mining startup, laying the roadmap for its growth and impact. Involved market analysis, product lifecycle management, sales, and pricing options research.
- Guided and inspired graduate students as **Mentor** and **Orientation Leader** at USC's Viterbi School of Engineering.
- **HackSC'23**, Southern California's official hackathon. Designed and built *cFood*, a health-conscious social media for food.
- Steered cybersecurity and data privacy efforts as **Head of Research** and Treasurer at (**MIST**).
- Secured a top 10 position in the prestigious Cisco SecCon **CTF** 2020.
- Fueled **Zolve's** global growth through credit awareness, feedback, and dynamic marketing as a campus ambassador.
- Represented Coursera as a campus ambassador, fostering educational excellence within the university community.
- Contributed to child health and education as a volunteer for Yes We Can, a non-profit organization.
- Demonstrated leadership as a Corporal in the National Cadet Corps (NCC) while fostering discipline and teamwork.

TALKS & PRESENTATIONS

- Risk and Reporting Tools, a Story of How We Support the Risky Markets, presentation at Wells Fargo during Market Square 2022, showcasing expertise in financial regulatory insights and supporting technology solutions.
- Engaged in a thought-provoking Fireside Chat on 'Usable Security: An Important Dimension' at Manipal Information Security Team (MIST), illuminating key cybersecurity concerns and solutions.
- Took stage with 'Data Privacy 101,' an influential talk orienting students on critical aspects of privacy risks and necessities.
- Secured "Best Presentation" with 'Computers with a Cause' in the MyPCMyStory summit organized by Dell Inc., presenting a compelling vision for the role of technology in social impact initiatives.

SELF VENTURES

LinePine | linepine.prachotanbathi.com

- Founded and serve as the principal instructor at LinePine Tech, empowering young minds through Hour of Code events while spearheading course planning and syllabus design for computer literacy.

PurSeek Tech

- Established PurSeek Tech, dedicated to enhancing digital presence of 15 small and emerging businesses through cost-effective website solutions, fostering their growth and success
- Empowered 25 high-school youth in rural India by imparting essential web development skills through PurSeek Tech, enabling them to carry forward this noble mission and stimulate economic development within their communities.

CERTIFICATIONS

Azure AZ-900 Certification, Microsoft; **Project Management Certification**, Google; **Specialization in Big Data**, UC San Diego; **Interaction Design Specialization**, UC San Diego