

# 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, Algorithmic Trading, 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 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 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 not only streamlined processes but also reduced build blockers by 40%.
  - Contributed to the design and implementation of robust risk and reporting tools to address the needs of risk managers, resulting in marked improvements in operational efficiency.
  - 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.
- 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  
**Developer Tools:** Git, Jenkins, Jira, Confluence, Figma, Framer, Postman, GDB, Putty, AWS, Azure Suite, Kubernetes, Docker  
**Other:** Arduino, Raspberry, Formal Specifications, SSL, DNS Records, Nginx, TomCat, Kernel Development and Debugging, Embedded Programming (LPC1768), Network Simulation (GNS3), WireShark, Business Development, Project Management  
**Research:** Usability and User Testing, Survey Design, Focus Groups, Heuristic Evaluation, Literature Review, Manuscript Writing

## SELF VENTURES

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### LinePine | [linepine.prachotanbathi.com](http://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.

## LEADERSHIP & INVOLVEMENT

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- 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

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- 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.

## PAST RESEARCH PROJECTS

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### 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.

## CERTIFICATIONS

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