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, CA
Student Developer & Technology Consultant   *February 2023 – Present*
- Spearheaded the management and enhancement of web applications for key research labs at USC Rossier School of Education, ensuring seamless operations and adherence to industry standards.
- Collaborated with interdisciplinary teams to strategize and successfully execute technology initiatives, consistently aligning with client specifications and design principles, successfully implementing critical projects.

Course Producer   *August 2023 – Present*
- Led "Explorations in Computing" course development, 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   *July 2022 – December 2022*
- Developed dynamic market risk software tools within the Vasara project, contributing to enhanced scalability and efficiency in risk management processes for capital markets.
- Innovatively implemented the Mockito framework to enhance testing procedures for transformer classes, driving the creation of comprehensive guidelines that not only streamlined processes but also reduced build blockers by 40%.

Intern Analyst   *January 2022 – July 2022*
- Actively contributed to the design and implementation of robust software solutions 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, showcasing proactive initiative.

Rady Faculty of Health Sciences   Winnipeg, Manitoba
Research Engineer (Globalink Research Intern Award Recipient)   *May 2021 – January 2022*
- Directed a team of four student engineers, adeptly employing agile methodologies 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

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 the power of reinforcement learning and control systems to seamlessly integrate stormwater models, paving the 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)
Moderator and observer experiences and decision...	Journal of Medical Internet Research	(Paper)
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: Python, Django, Java, Spring, C, C++, 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, Cloudflare, Heroku, SSL, DNS Records, Nginx, TomCat, IAM, Reinforcement Learning, 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

LinePine | *linepine.prachotanbathi.com*
- Founded and served 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 the 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

- Led business development and strategic planning at **LISUS**, an LA based sustainable lithium mining startup, paving the way for its growth and impact in the green energy sector.
- 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, showcasing exceptional prowess in problem-solving.
- 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 the 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

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 the 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 the planning project.

Certifications

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