RAMAPRIYA RANGANATH

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PROFILE

Experienced in Research and Software Development Positions; Certified Google Data Analyst and Program Manager

EDUCATION

M.S in Computer Science, University of Wisconsin-Madison — Sept 2022 – May 2024

Major : HCI, Systems and Security ; Research student under Professor Remzi Arpaci-Dusseau

TA: Algorithms,Databases, Mobile Systems and Applications

B.E.in Computer Science, PES University *Aug 2014 - May 2018* — *Major : Computer Science*

PROFESSIONAL EXPERIENCE

Research Software Engineer, Microsoft Research, Bangalore, India — 2018-2020

- Worked on Project BlendNet, a P2P communication platform facilitating automatic data transfers
- Enhanced project success rate from 8% to 98% by redesigning the Hub
- Presented the project at the Technical Advisory Board (TAB), a renowned event at Microsoft Research, and operations team for CRM
- Presented the project to Eric Horvitz, Chief Scientist Officer at Microsoft Research

Augmented Reality for Visually Impaired Cooking (AR & Accessibility)

- **Objective:** Designed and implemented an accessible Augmented Reality (AR) solution using Meta Quest Pro to assist visually impaired individuals in cooking tasks.
- **Skills & Keywords:** Human-Computer Interaction, Computational Models, Cross-Group Collaboration, AR/VR Experiments
- **Description:** Developed an innovative AR solution on the Meta Quest Pro platform, catering to the unique needs of visually impaired individuals during cooking activities. Collaborated across interdisciplinary teams to ensure a user-centered design approach. Analyzed quantitative data from experiments, driving insights to refine the AR system's effectiveness. This project demonstrates expertise in human-computer interaction, computational modeling, and cross-group collaboration while documenting research findings through comprehensive reports.

Samaritan

- **Objective**: Developed emotional recognition and object identification for humanoid robots, enabling multilingual communication (English, Korean, Spanish, Hindi).
- **Role**: Led a team, integrated technologies, and oversaw software implementation.
- **Skills:** Emotion recognition, object detection, multilingual speech synthesis, Python, C++, robotics, Products,
- **Achievements:** Successfully integrated capabilities, presented research, and garnered industry interest and customer and sales interest and CRM
- **Impact:** Improves human-robot interaction in healthcare, education, and more.
- **Future:** Continuously enhance capabilities and explore commercialization opportunities.

Rootkit Sentinel — University of Wisconsin Madison

- Implemented a high-performance distributed file transfer system using a combination of TCP/IP, UDP, and RDMA protocols to achieve exponential speeds compared to current systems.
- Deployed a multi-layered security architecture to protect against DDoS and IP spoofing DDoS attacks, including load balancers, firewalls, and intrusion detection systems.
- Concealed SSIDs and implemented MAC address filtering to prevent unauthorized access to the network.
- Embedded rootkits in files to disable the attacker's system upon execution, including deleting all files in the startup folder and preventing the system from booting up.

Intelligent Customer Service Language Model

- Designed, developed, and trained a large-scale generative language model tailored for intelligent customer service applications.
- Implemented advanced Natural Language Processing (NLP) and Machine Learning (ML) techniques to enhance the model's capabilities.
- Utilized algorithms for comprehensive language comprehension, enabling tasks such as intention identification and emotion recognition.
- Classifying videos based on their content and associated hashtags, curated distinct sections for seamless content organization.

PUBLICATIONS

- SuperNet' accepted at USENIX Symposium on Networked Systems Design and Implementation
- Samaritan: Unleashing Limitless Intelligence through Advanced AI, ICML workshop paper
- IoT Green Corridor The 10th International Conference on Ambient Systems,Networks and Technologies(BESTPAPER)
- Automatically Generating Theory of Computation Problems with Optimal Solutions." Workshop Paper ICER(2019)
- Heart Rate Monitoring System." SCOPUS Indexed journal, IJEAT

TECHNICAL SKILLS

- **Programming:** Python, Node JS, R, C, Java, Html, CSS, JavaScript, PHP, C#, Angular JS, ReactJS, Rust, Perl, SQL ,GO Agile, Scrum, Security ,REST, Grunt ,AngularJS ,AWS ,Excel,Jira, confluence and Salesforce CRM
- **Certificates:** Google Data Analytics, Google Program Management, Google Android App Development, Google UI/UX

HONORS & AWARDS

- Selected to Organize Workshop in Ambient Networks and Systems 2023, MIT Grand Hack Finalist 2023
- Selected to Organize Workshop in ICER 2019