

# PADMAJA BUGGAVEETI

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## EDUCATION

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### Masters in Computer Science

Seattle University, Seattle, WA

Sep 2023 — May 2025

### Bachelor of Technology in Computer Science

SRM University, AP, India

June 2019 — May 2023

## EXPERIENCE

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### Research Intern

SRM University, AP

June 2021 - Aug 2021

- Performed research in Information Security, focusing on the development of a cutting-edge Reversible Data Hiding scheme in images.
- Proposed and implemented a novel technique based on Prediction Error Histogram Shifting, resulting in a significant improvement in embedding rates and perfect image recovery.
- Demonstrated practical applicability of the algorithm, showcasing its superior performance compared to existing methods.
- Collaborated effectively with the research team, contributing essential insights and technical expertise to the project's success.

### Open Source Contributor

Hacktober Fest

Oct 2020 - Nov 2020

- Demonstrated strong commitment and skills as a contributor by resolving issues across diverse domains and technologies during the event.
- Strengthened open-source development proficiency through hands-on experience and collaboration within the wider developer community.

### Associate

NextTech Lab

Jan 2020 - Aug 2021

- Contributed as an Associate at NextTech Lab, a student-run multidisciplinary lab focused on cutting-edge technologies such as artificial intelligence, the internet of things, extended reality, and cryptocurrency.
- Actively collaborated with peers in research groups, fostering a multidisciplinary approach to exploring and advancing various tech domains.
- Led the development of web projects, gaining hands-on experience in web development and acquiring proficiency in new and emerging web technologies.

## RESEARCH AND PUBLICATIONS

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### A Novel Prediction Error Histogram Shifting-based Reversible Data Hiding Scheme for Medical Image Transmission

June 2021 - Aug 2021

IEEE Link

- Reversible Data Hiding is an emerging field in the domain of Information Security. In our publication, we have introduced A Novel Prediction Error Histogram Shifting-based Reversible Data Hiding Scheme for Medical Image Transmission.
- With better results, novelty, and uses, it has been proven that our scheme can be used for daily life applications, mainly medical applications.

### Advancements in Reversible Data Hiding Techniques and Its Applications in Healthcare Sector

Dec 2022

Publication Link

- Composed and published a Book chapter titled "Advancements in Reversible Data Hiding Techniques and Its Applications in Healthcare Sector" in the Book "Predictive Data Security using AI - Insights and Issues of Block chain, IoT, and DevOps", Springer Publishers.
- A few of the challenges that come with creating a reversible watermarking system for use in healthcare applications are also covered in this chapter.

### A Comprehensive Exploration of Advancements and Applications of Digital Watermarking

May 2023

- Authored and published a Book chapter titled "A Comprehensive Exploration of Advancements and Applications of Digital Watermarking" in the Book "Next-Generation Cybersecurity - AI, ML, and Blockchain (NGC 2023)", under the book series "Blockchain Technologies", Springer Publishers.
- A comprehensive review of digital watermarking methods for digital authentication and copyright protection is given in this chapter.

## PROJECTS

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### Excision: The Pokemon Trading Card Game Shop

- Led the development of the Pokémon Trading Card Game Shop, implementing essential CRUDi functions and incorporating feature animations to enhance user engagement and enjoyment.
- Achieved an impressive 99.58% code coverage, ensuring the robustness and reliability of the product.
- Applied agile methodology, including the use of user stories, throughout the development and deployment phases, facilitating a collaborative and iterative approach for a successful project outcome.

### O.S.M - Our Smart Medico

- Led the development of "O.S.M - Our Smart Medico", a platform leveraging diagnostic AI models to enhance the accuracy of patient diagnoses and predict future health outcomes.
- Implemented QR Code technology for instant access to a patient's full medical history, reducing the need for time-consuming multiple test runs.
- Successfully delivered the project within the constraints of a hackathon, demonstrating adaptability, teamwork, and efficient problem-solving.

### CRA — Covid Responsive Application

- An application that lets people know the red zones location, Covid symptoms, has in-app medical store and contacts of doctors.

## SKILLS

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- **Relevant Coursework:** Software Engineering, Computer Networks, Web Development, Advanced Data Structures and Algorithms
- **Programming:** Java, SQL, C++, C, Python
- **Web:** HTML, CSS, JavaScript, Bootstrap, Latex.
- **Tools:** Git, Github, Visual Studio, Matlab

## ACHIEVEMENTS

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- Submitted a patent application titled "A Reversible Data Hiding System and Method for Image Transmission" (Application Number: 202241002654).
- Won Best Paper Award and a cash prize at the 4th ISEA Virtual International Conference on Security and Privacy 2021 for presenting a paper titled "A Novel Prediction Error Histogram Shifting-based Reversible Data Hiding Scheme for Medical Image Transmission".
- Final in Pitchathon 2020, a 36 hour event that aimed at conceiving the perfect revenue-generating ideas with a ready for a market business model.