

# ABHIJEET SANDIP PACHPUTE

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## EDUCATION

### University of Utah

Master of Science in Computer Science

August 2024 - May 2026

**Relevant Coursework:** Graduate Algorithms (CS 6150), Deep Learning (CS 6353), Security & Privacy (CS 6495)

### University of Pune

Bachelor of Engineering in Computer Engineering

July 2019 - May 2023

**Relevant Coursework:** Object-Oriented Programming, Data Structures and Algorithms, Machine Learning

## SKILLS

**Programming Languages:** Java, JavaScript (ES6+), Python, C++, HTML5, CSS3, SCSS, TypeScript

**Frontend Technologies:** React.js, HTML5, CSS3, SCSS, Bootstrap, Tailwind CSS, Responsive Design

**Backend Technologies & Databases:** Node.js, Express.js, Spring Boot, RESTful APIs, MySQL, MongoDB, PostgreSQL

**DevOps & Cloud:** Git, GitHub, Docker, AWS (EC2, S3, Lambda), CI/CD Pipelines, Agile Methodology

**Libraries & Tools:** PyTorch, NumPy, Pandas, Scikit-Learn, OpenCV, TensorFlow, CNN, GAN, Cocoa, Raylib, OpenGL

## EXPERIENCE

### Software Developer

eWarranty Solutions | Internship

July 2023 - February 2024

Pune, India

- Developed a large-scale **QR code-based warranty verification** system using **Java**, **Spring Boot**, and **RESTful APIs**, streamlining workflows for over **50,000** products and cutting manual errors by 30%.
- Engineered **real-time analytics dashboard** with Spring Boot, **JavaScript**, **MySQL**, and integrated **CompletableFuture** API for asynchronous data retrieval, enabling manufacturers to make better warranty decisions.
- Enhanced backend performance by optimizing database queries, **API workflows**, and system architecture with **MySQL**, Spring Boot and **HikariCP** connection pooling, achieving a 40% reduction in response times and ensuring scalability.

### Web Developer

Interstellar Scientific | Internship

August 2022 - March 2023

Pune, India

- Redesigned the website using **Node.js**, **HTML5**, **SCSS3**, reducing load time by 3 seconds, and boosting user engagement by **1,500 additional** monthly users across **10,000+** active users.
- Led the development of MySQL-backed backend with **RESTful APIs** using **Express.js**, applied **database indexing** and **query optimization** techniques, optimizing workflows and reducing processing delays.
- Conducted a detailed user behavior analysis using **Google Analytics**, implemented responsive design principles with **CSS3 Flexbox** and **Grid**, and optimized website layouts, resulting in a **50%** reduction in user drop-off rates.

### Cyber Security Analyst

ShellStrong Technologies | Internship

January 2022 - July 2022

Pune, India

- Resolved **7 high-priority** digital forensic cases by diagnosing root causes and implementing mitigation strategies such as **multi-factor authentication(MFA)**, **data encryption**, and **firewall rule updates** to prevent future breaches.
- Performed vulnerability assessments with **Nmap**, **Wireshark**, **Metasploit**, reducing system vulnerabilities by 30% and ensuring compliance with security standards.
- Implemented **ISO 27001-compliant** InfoSec protocols, mitigating data security risks and boosting operational efficiency.

## PROJECTS

**Dinodash** | C++, Raylib, Clang/GCC, OpenGL, Cocoa, IOKit (link)

- Designed and developed a feature rich 2D dinosaur survival game using C++ and Raylib, integrating **25+ unique game assets**, dynamic day-night cycles, collectible power-ups, and achievements.
- Refined animations and gameplay mechanics to maintain a **stable 60 FPS**, boosting performance and engagement.

**TASA** | Python, HOG, OpenCV, CNN, Raspberry Pi, MongoDB (link)

- Created TASA (Trusted Assistant with Secure Access), a **real-time face recognition** system using CNN and HOG, addressing security concerns and achieving **90%** authentication accuracy for enhanced data protection.
- Designed a **multilevel user authentication** system, increasing user trust and setting a new standard for secure access in intelligent virtual assistants.

**Image-Dev** | Python, GAN, TF-IDF, CNN, AWS, MySQL, Diffusion (link)

- Engineered an advanced text-to-image AI model to address challenges in conflict-category image generation, achieving **93%** contextual relevance by implementing a **hybrid TF-IDF** and preposition-based approach.
- Integrated **GPU-accelerated diffusion** processes, optimizing computational performance to generate high-resolution (1024x1024) photorealistic and artistic images with enhanced alignment to user prompts.

## PATENTS

(Patent) **TASA: Virtual Assistant With Face Authentication** | (202221066577) (link)

(Patent) **Safety H-Shield: Women Safety Wearable Device** | (202221048969) (link)