ARITRO DUTTA

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As an aspiring software engineer, I plan to start my career with an organisation that impacts lives and the community on a personal level. With a background of working as a team member and with extensive prior programming experiences, I pride myself on being able to architect and design effective solutions.

EDUCATION

AUG 2020 - FEB 2025 Bachelor of Engineering (Hons), Monash University, Australia

Relevant Coursework - Engineering mobile apps, Computer organisation and programming, Software engineering process and management, Engineering numerical analysis, Discrete mathematics for computer science, Computer systems, networks and security, Operating systems, Software quality and testing, Software engineering practice, Algorithms and data structures, Software Architecture and Design, Computer architecture, Databases, Data visualisation, Computer networks

PROFESIONAL EXPERIENCE

OCT 2022 - OCT 2022

ANZ Cyber Security Management Virtual Experience Program Virtual

- Acquired skills in understanding cybersecurity concepts such as phishing and network sniffing using Wireshark
- Proficient in Social Engineering Investigation techniques
- Experienced in Digital Investigation, analysing Packet Capture files using Wireshark

Utilised tools: Wireshark, Operating Environment: Windows 11

DEC 2021 - FEB 2022

Web Page Development India

- Developed and designed a responsive web page for a leather goods manufacturing company
- Implemented optimization for various platforms including PCs, Tablets, and Mobiles
- Utilized HTML and CSS for web page development. Employed Canva to design banners to enhance UI aesthetics

Utilised Tools: Sublime IDE, Canva, Operating Environment: Windows 11
Platforms Targeted: PCs, Mobiles, Tablets, Webpage Link: creationexport.com

APR 2022 - FEB 2024

Avionics team member in Monash Student
Team Monash Uncrewed Aerial Systems (MUAS) Melbourne

- Avionics team member at Monash UAS since April 2022. Involved in software development and managing electronic/electrical components for UAVs
- Worked on Real-Time Kinematic GPS (RTK GPS) including wiring and testing connections
- Developed aerial acrobatics coding for UAVs using Lua scripting
  Tools Used: Mission Planner, VS Code for IDE, Lua scripting
  Platform Targeted: Custom

Projects

SEP 2021 - OCT 2021
Arcade Game using Java (Dark Souls 2D)

- Objective: Develop and assess object-oriented design skills, software engineering principles, and tool proficiency by creating and implementing a text-based roguelike game inspired by Dark Souls III.

Key Responsibilities:
- Object-Oriented Design: Iteratively constructed designs for small to medium-size software systems, documented using UML class and interaction diagrams.
- Design Evaluation: Assessed design quality to ensure alignment with user requirements and adherence to good design principles.
- Software Engineering Tools: Utilized UML drawing tools (LucidCharts), integrated development environments, and version control systems (Git).
- Team Collaboration: Worked in a team to extend an Java codebase, adding new game features such as player character management, enemy behaviours, and interactive elements.

Project Highlights:
- UML Documentation: Created comprehensive UML class and interaction diagrams to document the system’s design and proposed extensions.
- Design Rationale: Provided detailed design rationales, evaluating design choices and outlining alternatives.
- Version Control: Managed project files and documents using Git, ensuring smooth collaboration and version control.

MAR 2023 - JUN 2023
9 Men's Morris Game Client Application using Java

- Objective: Develop a 9 Men's Morris game client application on Java for coursework adhering to proper software development practices and object-oriented principles.

Key Responsibilities:

- Object-Oriented Design: Designed the game client using object-oriented principles, ensuring scalability and maintainability.
- Basic Prototype Development: Implemented a fully playable 9 Men's Morris game client for two players, following the game's standard rules.
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MAR 2023 - Nov 2023
LukAr - Smart Glasses

Objective:

- Develop a UI to benefit users in shopping while wearing Nreal AR glasses. The glasses acted as a shopping list; once they detected the needed grocery items, they would prompt the users for further actions.

Key Responsibilities:

- Responsible for the image recognition capabilities of the glasses.
- Utilised pre-trained models for image recognition.
- Created new datasets using Roboflow.

Project Highlights:

- Successfully integrated image recognition with Nreal AR glasses.
- Improved shopping efficiency by accurately detecting grocery items.
- Enhanced user experience with intuitive prompts and actions based on detected items.

Skills Demonstrated:

- Image Recognition: Expertise in using pre-trained models for identifying grocery items.
- Data Preparation: Created and managed datasets on Roboflow to enhance image recognition accuracy.
- Augmented Reality (AR): Experience developing and integrating UI for AR glasses.
- Machine Learning: Applied machine learning techniques for image detection and recognition.
- Project Management: Coordinated development efforts to meet project deadlines and objectives.
- Problem-Solving: Addressed challenges related to image recognition and AR integration.

MAR 2024 - Present
Universal Book

Objective:

- Create a collaborative digital platform for sharing and receiving knowledge and insights across various life topics, incorporating NLP for translation to enhance global accessibility.

Key Responsibilities:

- Coded UI pages with the team using React.
- Planned backend development for the next iteration.

Project Highlights:

- Developed a user-friendly interface for easy navigation and content editing.

Skills Demonstrated:

- Front-end Development: Experience with React for building the UI.
- Collaboration: Worked effectively with the team to implement project features.
- Project Planning: Organized and planned development phases.
- Version Control: Utilized Git for version control and project management

AI Pathways: Navigating Future Careers
MAR 2024 - Present

Objective:

- Develop an interactive web-based platform to guide students from primary to year 10 and beyond in exploring and planning their future careers through personalised assessments.

Key Responsibilities:

- Incorporated a chatbot using Azure AI.
- Extracted personality data from the database(MongoDB) to display accurate output on the chatbot.

Project Highlights:

- Created an engaging career exploration platform.
- Provided personalized student reports and assessments based on game interactions and personality tests.

Skills Demonstrated:

- AI Integration: Utilized Azure AI for chatbot development.
- Data Management: Extracted and managed personality data for accurate chatbot responses.
- UI/UX Design: Enhanced user experience through engaging and intuitive design.
- Version Control: Utilized Git for version control and project management.
- Team Communication: Collaborated effectively with the team to ensure project progress.
- Client Communication: Maintained clear and consistent communication with the client to meet project requirements.

VOLUNTEERING

Volunteered for Monash Open Day [2022] and Monash Open Day [2023] by representing Monash UAS where I had to describe our team values and the projects we worked on, to the attendees of Open Day 2022 and 2023.

ACCOMPLISHMENTS

Received Faculty of Engineering International Undergraduate Excellence Scholarship from Monash University [2020]

SKILLS

PROGRAMMING SKILLS:

Python	Expert (experience through coursework)
Java	Intermediate (experience through coursework)
C/C++	Experienced (coursework)
HTML	Skillful (web dev)
CSS	Skillful (web dev)
SQL	Experienced (coursework)
MIPS	Skillful (coursework)
Lua scripting	Experienced (student team)

	Matlab	Expert	(coursework)

LANGUAGES: English (IELTS 7), Hindi (Native), Bengali (Native)

KEY EMPLOYABILITY SKILLS

Teamwork and Collaboration, Willingness to Learn, Good communication skills, Problem-solving ability, Multidisciplinary

ACCOMPLISHMENTS

Received Faculty of Engineering International Undergraduate Excellence Scholarship from Monash University [2020]