

Informatics Institute of Technology

Trends in Computer Science

4COSC008C.2

CW2 – Portfolio

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1. Employability and career planning

1.1. Career Specialization and Focus

In the ever-evolving landscape of computer science, I am continuously captivated by the shifting trends that shape our technological advancements and professional trajectories. These trends not only dictate the tools and methodologies we employ but also profoundly impact our career aspirations and plans. Among the latest trends in computer science, artificial intelligence, edge computing, and quantum computing stand out as transformative forces. Additionally, the domains of robotics and cybersecurity are constantly evolving, requiring IT professionals to stay abreast of the latest developments.

One of the most intriguing phenomena that has captured my attention is the escalating demand for mobile applications. The ubiquity of smartphones and the incessant quest for innovative, user-centric mobile solutions underscore the growing significance of this field. My passion for leveraging software to craft immersive and intuitive user experiences resonates deeply with the specialization in Software Development, particularly with a focus on mobile applications.

Furthermore, the emergence of server-side web development as a platform for building dynamic and responsive online applications presents a new frontier for exploration. The prospect of delving into the intricacies of web development and contributing to the creation of reliable and efficient web solutions is immensely appealing to me. I aspire to deepen my understanding of server-side technologies and hone my skills in crafting impactful web applications.

To realize these ambitions, I am deliberate in selecting optional modules at both level 5 and 6 that align harmoniously with my career objectives. At level 5, I aim to enroll in modules centered around Mobile Application Development and Server-side Web Development. These foundational courses will equip me with the requisite skills to excel in both mobile and web programming domains.

Building upon this foundation, at level 6, I intend to pursue modules focusing on Advanced Server-side Web Programming and Mobile Native Application Development. These advanced courses will afford me the opportunity to refine my expertise in server-side technologies and delve deeper into the complexities of mobile application development, thus preparing me comprehensively for the challenges and opportunities that lie ahead in my professional journey.

In summary, the prevailing trends in computer science, particularly in the realms of web and mobile application development, significantly shaped my career aspirations. By specializing in these fields, I aim to establish myself as an adaptable and proficient developer capable of meeting the evolving demands of the market and making meaningful contributions to the digital landscape.

[395 Words]

1.2. Employability Development and Events

Participating in events within the tech industry has been a rewarding journey, both in terms of education and enjoyment. These gatherings offer a unique opportunity to connect with like-minded individuals and stay abreast of the latest trends and innovations shaping the industry.

Among the multitude of events I've attended, a few stand out as particularly memorable and impactful:

1. Global AI Bootcamp
2. A Beginners Guide | Microsoft

1.2.1. Global AI Bootcamp:



Held on March 23rd, 2024, at the IIT Building in Colombo 04, the Global AI Bootcamp was organized by AICSL (AI Community in Sri Lanka). This event brought together distinguished speakers who shared their insights, breakthroughs, and visions regarding

artificial intelligence (AI). The sessions were not only informative but also inspiring, sparking curiosity and enthusiasm among attendees. Through interactive discussions, we gained valuable insights into the emerging trends and applications of AI in various industries. Moreover, networking opportunities allowed for meaningful connections with professionals sharing a passion for AI technology.

1.2.2. A Beginners Guide | Microsoft:

Taking place on February 10th, 2024, at Microsoft Sri Lanka, "A Beginners Guide" provided a comprehensive overview of modern trends in the tech market, with a focus on Microsoft technologies. This event offered an invaluable learning experience, delving into the intricacies of Microsoft's offerings and their relevance in today's digital landscape. Beyond educational content, the event facilitated networking opportunities, enabling participants to forge connections with fellow enthusiasts and industry experts.

Attending these events has not only expanded my knowledge base but has also contributed significantly to my professional development. By immersing myself in discussions surrounding cutting-edge technologies and industry trends, I've gained a deeper understanding of the challenges and opportunities within the tech sector. Furthermore, networking with industry professionals has allowed me to build a strong support network, opening doors to potential collaborations and career opportunities.

Looking ahead, I am eager to continue actively participating in industry events, seizing every opportunity to enhance my skills, expand my knowledge, and forge meaningful connections within the vibrant tech community. These experiences serve as invaluable stepping stones in my journey towards achieving my career aspirations and making a meaningful impact in the ever-evolving field of technology.

[361 words]

1.3. Preparation for Future Career

Preparing for my future career as a Software Developer specializing in mobile applications or Web Development entails a series of crucial steps within my studies. Firstly, I must deepen my proficiency in programming languages and frameworks pertinent to my chosen fields, such as Java, Kotlin, Swift, HTML, CSS, and JavaScript, along with frameworks like React or Angular. Secondly, mastering user interface (UI) and user experience (UX) design is imperative to create visually appealing and user-friendly applications and websites.

Moreover, gaining practical experience through internships, freelance projects, or personal endeavors is essential for honing my skills and building a robust portfolio. Seeking opportunities to collaborate on real-world projects with industry professionals is key to this endeavor. Additionally, staying abreast of the latest trends and technologies in mobile applications and web development through industry publications, conferences, and online communities is vital to remain competitive in the evolving landscape.

Lastly, developing soft skills such as communication, teamwork, and problem-solving is indispensable for effective collaboration and client interaction. By focusing on these areas, I aim to position myself as a highly skilled and adaptable candidate, ready to excel in the dynamic field of software development. (Simmons, L. 2021)

2. Cyber Security

2.1. Introduction:

Cyber security has become increasingly critical in safeguarding sensitive information and digital assets against cyber threats. As organizations worldwide continue to grapple with cybersecurity challenges, the role of cyber security experts becomes paramount. This report delves into the qualifications and skills required for cyber security professionals, examines job opportunities in Sri Lanka's cyber security sector, and discusses specialisms within the field. (Meier, 2022)

2.2. Qualifications and Skills Required:

Cyber security experts are expected to possess a blend of technical expertise, analytical skills, and a deep understanding of cyber threats and vulnerabilities. According to the National Initiative for Cybersecurity Education (NICE), key qualifications and skills for cyber security professionals include proficiency in programming languages, network security, risk management, and incident response (National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework | CISA, 2021). Additionally, strong communication skills are essential for effectively conveying complex technical concepts to non-technical stakeholders.

2.3. Cyber Security Job Opportunities in Sri Lanka:

Sri Lanka's burgeoning IT industry has created a demand for cyber security professionals across various sectors. According to a report by Imesh Liyanage to The Morning, the Sri Lankan cyber security market is witnessing rapid growth, driven by increased digitalization and the adoption of cloud computing and IoT technologies (Liyanage, 2021). Job opportunities in the country span across industries such as banking and finance, healthcare, government, and telecommunications.

2.4. Specialisms within Cyber Security:

Within the broad field of cyber security, there are several specialized areas that professionals can pursue based on their interests and expertise. One such specialization is Penetration Testing or Ethical Hacking, where experts simulate cyber-attacks to identify vulnerabilities in systems and networks. This specialization requires strong technical skills and a thorough understanding of hacking techniques and defensive measures.

Another specialized area is Security Operations Center (SOC) Analyst, where professionals monitor and analyze security incidents to detect and respond to cyber threats in real-time. SOC analysts require strong analytical and problem-solving skills, along with knowledge of security information and event management tools.

Additionally, Digital Forensics is a specialized field focused on investigating cyber crimes and collecting evidence for legal proceedings. Digital forensics experts must have a deep understanding of computer systems and forensic tools, along with knowledge of legal and ethical considerations.

In conclusion, cyber security experts play a crucial role in protecting organizations from cyber threats and mitigating potential risks. To excel in this field, professionals must possess a combination of technical expertise, analytical skills, and strong communication abilities. In Sri Lanka, the cyber security sector is experiencing significant growth, offering a wide range of job opportunities across various industries. Specialisms within the field, such as Penetration Testing, SOC Analysis, and Digital Forensics, provide avenues for professionals to specialize and contribute to the cybersecurity landscape effectively. (Doyle et al. 2015)

3. Cover letter and CV

3.1. Cover letter

SAAD MAZHAR

+94 72 013 5801

saadmazaa@gmail.com

No.5/5, P.T.De Silva Mawatha, Dehiwala.

9th April 2024

Isuri Dissanayaka
Hiring Manager - IFS

TRAINEE SOFTWARE ENGINEER

Dear Ms. Isuri Dissanayaka,

I am writing to express my interest in the internship opportunity with the Projects team at IFS R&D, as advertised. With a passion for innovation and a strong desire to contribute to real-world projects, I am eager to join Team Purple and make meaningful contributions to your organization.

The opportunity to work with an internationally renowned company like IFS excites me, and I am particularly drawn to your commitment to fostering a diverse and inclusive work environment.

As a recent graduate with a degree in Computer Science, I bring a solid foundation in programming languages such as Java, C#, and JavaScript, along with a keen interest in learning new technologies and practices. My exposure to agile development methodologies during my academic projects has equipped me with the ability to adapt quickly to changing project requirements and collaborate effectively within a team environment.

Thank you for considering my application. I am enthusiastic about the possibility of joining IFS and contributing to your mission of challenging the status quo and realizing competitive advantage for your customers. I look forward to the opportunity to discuss how my skills and experiences align with the needs of your team.

Sincerely,

Saad Mazhar

3.2. CV



MUHAMMED SAAD MAZHAR

+94 72 013 5801 · saadmazaa@gmail.com · saad.20221804@iit.ac.lk
No.5/5, P.T.De Silva Mawatha, Station Road, Dehiwala.

PERSONAL STATEMENT

A loyal, reliable, and trustworthy individual with excellent communication skills, I adeptly adapt to modern trends and conditions to maximize output while maintaining a calm composure in any situation. As an analytical and results-oriented pragmatist, I possess a fine understanding of organizational practices and management risks. Currently pursuing a degree in Computer Science, my passion lies in exploring new technologies and trends. Actively engaged in cutting-edge technology research, I leverage my analytical skills to identify emerging trends and their potential impact on various industries. Demonstrating a knack for integrating modern technological advancements into organizational practices, I consistently deliver results while upholding professionalism and integrity, showcasing adaptability in dynamic environments.

KEY COMPETENCIES

- | | | |
|--------------------------------|----------------------------------|-------------------------------------|
| - Communication and leadership | - Report writing and presenting | - Strong interpersonal skills |
| - Collaboration & team work | - Critical thinking skills | - Proactive and self-motivated |
| - Project management | - Excellent communication skills | - Exceptional organisational skills |

PROFESSIONAL EXPERIENCE

Mad Town Group (PVT) Ltd.

July 2021 - September 2022

Digital Marketing Intern

- Worked closely with team, gaining knowledge of day-to-day processes and duties.
- Researched industry trends and competitor marketing decisions to introduce new ideas.
- Displayed trends on graphs and visual aids to present conclusions to supervisors.
- Curated social media content and managed accounts to increase engagement.
- Collaborated with team in creating and executing influencer marketing campaigns, including outreach, negotiations, and measurement.
- Assisted in planning and executing events and trade shows, including logistics, promotions, and coordination with vendors and partners.
- Conducted market research to identify trends and opportunities and provided insights to support marketing strategy and planning.

EDUCATION

BSC (HONS) IN COMPUTER SCIENCE

Expected Graduation 2027

University of Westminster - UK

FOUNDATION CERTIFICATE IN HIGHER EDUCATION

2023

Informatics Institute of technology

G.C.E ADVANCED LEVEL

2023

Isipathana College

DIPLOMA IN INFORMATION TECHNOLOGY

2020

Esoft Metro Campus

G.C.E ORDINARY LEVEL

2019

Isipathana College

EXTRA CURRICULAR ACTIVITIES

- Captain of the English debate team of Isipathana College from 2020 to 2023.
- President of the Interact club of Isipathana College for the years 2020/21.
- President of the UN club of Isipathana College for the years 2020/21.
- Secretary of the Model united nations of Isipathana College for the years 2021/22.
- Secretary of the media unit of Isipathana College for the years 2020/21.
- Treasurer of the quiz circle of Isipathana College for the years 2020/21.
- Main organiser of the science society of Isipathana College for the years 2020/21.
- Main organiser of the English Literary association for the years 2020/21.
- Member of the Islamic Society of Isipathana College.
-
- Member of the 1st XI Football team of Isipathana College
- Member of the 1st XV Rugby team of Informatics Institute of Technology.
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- Member of the IEEE Computer society of informatics institute of technology.
- Member of the Rotaract club of informatics institute of technology.

LANGUAGE PROFICIENCY

Englsih

Sinhala

Tamil

NON RELATED REFREES

Mr. Mushtaq Ahamed
Chief Financial Officer Expolanka Holdings PLC
Email: mushtaq@expolanka.com
Tel: +94 77 753 0355 (Mobile)

Mr. Sameer Hamzah
Senior Manager - Strategic Initiatives Pearson Education
Email: sameer.hamzah@pearson.com
Tel: +94 77 316 1016 (Mobile)

3.3. Copy of Advert

About the job

IFS is a billion-dollar revenue company with 6000+ employees on all continents. We deliver award-winning enterprise software solutions through the use of embedded digital innovation and a single cloud-based platform to help businesses be their best when it really matters—at the Moment of Service™.

At IFS, we're flexible, we're innovative, and we're focused not only on how we can engage with our customers, but on how we can make a real change and have a worldwide impact. We help solve some of society's greatest challenges, fostering a better future through our agility, collaboration, and trust.

We celebrate diversity and accept that there are so many different perspectives in this world. As a truly international company serving people from around the globe, we realize that our success is tantamount to the respect we have for those different points of view.

By joining our team, you will have the opportunity to be part of a global, diverse environment; you will be joining a winning team with a commitment to sustainability; and a company where we get things done so that you can make a positive impact on the world.

We're looking for innovative and original thinkers to work in an environment where you can #MakeYourMoment so that we can help others make theirs.

IFS Project Based Solution offers integrated project management software for managing complex enterprise project lifecycles. Companies that require managing complex project lifecycles are often forced to use separate software products to manage different stages of the project - tendering, commercial, estimating, engineering, procurement, manufacturing & fabrication, planning, cost control, construction, installation, and commissioning. Our enterprise project management software capabilities unite these steps in a single integrated process, pulling data on real-time activities directly into a project plan. This affords the ultimate in control and visibility, enabling real-time control over cost, cash, time, resources, and risk. We offer a true project-based solution

- in essence, an enterprise solution built around project management principles rather than repetitive processes.

If you want to change the status quo, we'll help you make your moment. Join Team Purple. Join IFS.

Job Description

This internship is targeting students or recent graduates. You will join the Projects team in IFS R&D for a 12-month internship (Hybrid), working 8 hours a day with a flexible schedule, and will get to learn what real work feels like. You will work with an international team, with agile methodologies, and with the latest technologies.

We will give you all the resources you need to thrive and develop to become a great software engineer.

Qualifications

What are we looking for?

- Willingness to learn new technologies and practices.
- Experience in one or more of the following programming languages:
Java, C# , JS
- Knowledge of agile development methodologies.
- Fluency in English.
- Knowledge about databases is a plus.
- Availability to work 8 hours a day (flexible)
- Availability to start soon.
- Additional Information

Interviews and selections are being made continuously. If you are interested, apply as soon as possible.

As a step in our recruitment process, all final candidates will undergo a background check, to get us an understanding of our future employees.

We respectfully decline all offers of recruitment and/or advertising assistance.

4. Reflection on Generative AI Tools

Generative AI tools have the potential to revolutionize the way we study and work, offering new avenues for creativity, problem-solving, and productivity. As an AI language model, I foresee Generative AI tools changing the way individuals approach research, writing, and collaboration. Here are my reflections on the impact of Generative AI tools:

Generative AI tools have the potential to streamline the research and writing process, allowing individuals to generate ideas, draft content, and explore concepts more efficiently. By leveraging Generative AI, students and professionals can access vast amounts of information and insights, enabling them to make more informed decisions and produce high-quality work in less time. (Alavi and Westerman, 2023)

As a Generative AI tool, I am often used by students and professionals to assist with various aspects of their studies. For instance, students may use me to brainstorm ideas, generate outlines, or refine their writing. Professionals, on the other hand, may use Generative AI tools to draft reports, analyze data, or develop content for presentations.

To ensure academic integrity, it is essential to adhere to university regulations and guidelines regarding plagiarism and citation. When using Generative AI tools, it is crucial to properly attribute sources and avoid directly copying or plagiarizing content. Additionally, students and professionals should critically evaluate the output generated by Generative AI tools to ensure that it aligns with academic standards and expectations. (Jones.B ,2023)

Trustworthiness of results generated by Generative AI applications can be ensured through rigorous validation and testing processes. Developers of Generative AI tools employ techniques

such as fine-tuning on large datasets, human evaluation, and benchmarking against established metrics to ensure the reliability and accuracy of the generated output.

It is important to recognize that the use of Generative AI tools may exacerbate existing inequalities if not carefully managed. For example, biases present in training data can result in biased or unfair outcomes generated by AI models. To mitigate this risk, it is essential to adopt ethical guidelines and practices in the development and deployment of Generative AI tools. Additionally, incorporating diverse perspectives and voices in the training data can help reduce bias and promote inclusivity in AI-generated content. (Rotman. D, 2022)

In conclusion, Generative AI tools have the potential to enhance productivity, creativity, and collaboration in academic and professional settings. However, it is crucial to approach their use with caution, ensuring adherence to academic integrity principles and ethical guidelines to mitigate potential risks and promote equitable outcomes.

[396 Words]

5. References

5.1. Section 01

Communication. (2023) “WEBINAR: How the Web Development Landscape Has Changed.” Www.youtube.com, 9 March 2023, Available at: www.youtube.com/watch?v=aQBU748sGbs. Accessed on: 10 April 2024.

Howarth, Josh. (2020) “The 7 Most Important Computer Science Trends in 2021.” Exploding Topics, 6 April. 2020, Available at: <https://explodingtopics.com/blog/computer-science-trends>. Accessed on: 7 April 2024.

Matheswaran, K. (2024) “The Importance of Web Development in Today’s Digital Landscape” LinkedIn, 21 Feb. 2024, Available at: www.linkedin.com/pulse/importance-web-development-todays-digital-landscape-matheswaran-6uece/. Accessed on: 10 April 2024.

Simmons, L. (2021) “Top 6 Computer Science Trends in 2021.” Get an Education the World Needs | ComputerScience.org, 9 June 2021, Available at: www.computerscience.org/resources/computer-science-trends/. Accessed on: 5 April 2024.

5.2. Section 02

Meier, Daniela. (15 Feb. 2022) “Blog Post | Introduction to Cyber Security.” Academy.constructor.org, Available at: <https://academy.constructor.org/blog/short-introduction-about-cyber-security> Accessed on: 7 April 2024.

“National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework | CISA.” (2021) www.cisa.gov, Available at: www.cisa.gov/national-initiative-cybersecurity-education-nice-cybersecurity-workforce-framework Accessed on: 5 April 2024.

Liyanage, I. (8 Aug. 2021), “Sri Lanka’s Future Lies in Its Cybersecurity.” Latest in the News Sphere | the Morning, Available at: www.themorning.lk/articles/153954. Accessed on: 10 April 2024.

Doyle, Kenny, et al. (2015), “What’s so Unique about Cyber Security?” Cyber Security and Privacy, Available at: https://doi.org/10.1007/978-3-319-25360-2_11. Accessed on: 20 December 2022.

5.3. Section 03

“IFS Hiring Trainee Software Engineer - R&D, Projects in Colombo, Western Province, Sri Lanka | LinkedIn.” (12 Feb. 2024), Available at: www.linkedin.com/jobs/view/3855079945 Accessed on: 04 April 2024.

5.4. Section 04

Alavi, Maryam, and George Westerman. (2023) “How Generative AI Will Transform Knowledge Work.” Harvard Business Review, 7 Nov. 2023, Available at: <https://hbr.org/2023/11/how-generative-ai-will-transform-knowledge-work>. Accessed on 6 April 2024.

Jones, Beata M. (2023) “How Generative AI Tools Help Transform Academic Research.” Forbes, 28 Sept. 2023, Available at: www.forbes.com/sites/beatajones/2023/09/28/how-generative-ai-tools-help-transform-academic-research/?sh=2f813e9034fc. Accessed on: 8 April 2024.

Rotman, David. “How to Solve AI’s Inequality Problem.” MIT Technology Review, 19 Apr. 2022, Available at: www.technologyreview.com/2022/04/19/1049378/ai-inequality-problem/. Accessed on: 7 April 2024.