



SP COMPUTING

Applied AI & Analytics
Common ICT Programme
Cybersecurity & Digital Forensics
Information Technology

SP Singapore Polytechnic



FIRST POLY
FUTURE INSPIRED
EST 1954

APPLIED AI & ANALYTICS

DAAA – S30



Developing the Future of Technology

Believe it or not, you interact with a form of AI (Artificial Intelligence) every day! From Siri to Google Home and online chatbots, data analytics and AI make it possible for devices and programmes to respond to us in an almost human-like manner. This is changing the way we live, work and communicate and soon, it will become an integral part of our daily lives.

If you're interested in developing the next ground-breaking AI application to benefit our world, join the Diploma in Applied AI & Analytics (DAAA) course and be part of the revolution!

WHAT YOU CAN EXPECT

+ INDUSTRY NOW CURRICULUM (INC)

If you thrive on learning by doing, opt for this alternative learning pathway in Year 2 and Year 3. Instead of attending classes, gain module credits by working on real client industry projects.

+ PROFESSIONAL CERTIFICATIONS

Enhance your industry recognition by taking up professional certifications from companies such as Microsoft, Nvidia Deep Learning Institute and AI Singapore while at SP.

+ NEVER BE BORED

Take on new challenges and projects that are closely related to solving real-world problems.

+ AI and ANALYTICAL COLAB

Experience our specially designed AI computer labs equipped with high-performing computers and AI Deep Learning servers capable of handling complex machine learning tasks.

+ ACCELERATED PATHWAY PROGRAMME

Take up modules taught by Singapore University of Technology and Design (SUTD) or Singapore Management University (SMU) and complete your degree earlier.

SCHOLARSHIPS

- Centre for Strategic Infocomm Technologies (CSIT) Diploma Scholarship
- Defence Science and Technology Agency (DSTA) Polytechnic Scholarship
- DSO National Laboratories (DSO) Diploma Scholarship
- Micron Scholarship
- Singapore Polytechnic Scholarship

CAREER OPTIONS

Ready to shape the world with new technologies? Look forward to an exciting career as:

- AI Applications Developer who is able to integrate AI into other domain areas such as web technology, infocomm security, financial institution and public and private organisations that require AI technology.
- Application Developer
- Associate AI DevOps Engineer
- Business Intelligence Specialist
- Data Analyst
- Data Scientist
- Data Engineer

FURTHER STUDIES

Quench your thirst for knowledge at local or international universities! Our graduates may receive module exemptions or advanced standings with relevant courses offered locally at NUS, NTU, SIT, SUSS, SUTD and SMU.

ENTRY REQUIREMENTS

Range of Net 2023 JAE ELR2B2: 4 – 10

Aggregate Type: ELR2B2-C

SUBJECT	GRADE
English Language	1 – 7
Mathematics (Elementary/Additional)	1 – 6
Any one of the following relevant subjects for the ELR2B2-C Aggregate Type:	1 – 6
• Biology	
• Biotechnology	
• Chemistry	
• Computing / Computer Studies	
• Creative 3D Animation	
• Design & Technology	
• Electronics / Fundamentals of Electronics	
• Food & Nutrition / Nutrition & Food Science	
• Exercise & Sports Science	
• Physics	
• Science (Chemistry, Biology)	
• Science (Physics, Biology)	
• Science (Physics, Chemistry)	



During my internship at CSIT, I worked on two projects aimed at increasing operational efficiency and reducing manual support. The first involved leveraging industry-standard software development and DevOps tools to replace a legacy system with a new tech stack. Thereafter, I focused on data analytics tools to build a dashboard application for backend operation analysis. Although working with new tools was challenging, my course curriculum and mentor's guidance laid a solid foundation for me to become proficient in using them. This practical experience enhanced my adaptability, collaboration skills, and deepened my understanding of real-world defence sector needs, making it a valuable learning experience. 📌

Rachel Tan

DSTA Scholarship Recipient
Internship at Centre for Strategic Infocomm Technologies (CSIT)
DAAA Prize Award Winner



WHAT YOU'LL STUDY

The Diploma in Applied AI & Analytics is a three-year full-time programme.



FIRST YEAR

- AI & Machine Learning
- Back-End Web Development
- Common Core Modules
- Elective 1
- Front-End Web Development
- Fundamentals of Computing
- Fundamentals of Programming
- Mathematics
- Programming for Data Analytics
- Statistics for Data Science

SECOND YEAR

- Common Core Modules
- Data Engineering
- Data Structures & Algorithm (AI)
- Data Visualisation
- Deep Learning
- DevOps & Automation for AI
- Elective 2
- Elective 3
- Mathematics for AI
- Practical AI

+ Industry Project Learning Approach

In Year 2 Semester 2, students can opt into an Industry Now Curriculum (INC). In lieu of attending modules classes, students work in IT job role such as AI App Developer, on curated real client industry projects to gain credits and gain exposure to the latest technologies. Students get to network with industry partners and master industry relevant skills through this Industry Project Learning Approach – Project INC.

THIRD YEAR

In Year 3, students can choose to continue their training in one of the following pathways:

+ Year-Long Internship Pathway

- Internship Programme

+ University Pathway

- Applied AI and Analytics Project
- Computing Elective 1
- Computing Elective 2
- Computing Elective 3

+ Industry Project Pathway

- Applied AI and Analytics Project
- Computing Elective 1
- Computing Elective 2
- Computing Elective 3
- Internship Programme

*Note: For **University Pathway**, students to complete three Computing Electives administered by the university. For **Industry Project Pathway**, students can choose to complete either 22-week internship or three Computing Electives from a curated list or from industry certification courses.*

ELECTIVES

The SP elective framework offers students options to pursue their passion and / or meet different career needs, and is an integral part of the holistic education we seek to provide to our students. The learning experiences of this elective framework help students in their development as self-directed, versatile, life-long learners, which are essential in today's volatile and changing societal as well as occupational landscape.

Students who are interested to explore additional new skills and abilities will have the opportunity to take up to five electives. Certificates and minors will be awarded when students complete a suite of related elective modules. Please visit <https://www.sp.edu.sg/sp/education/elective-modules> for details of this elective scheme and the full list of electives.

COMMON CORE CURRICULUM

The Common Core Curriculum is designed to prepare students for a disruptive world that is ever-changing. Comprising critical human and emerging digital skills, the common core modules offer students an integral and inter-disciplinary learning experience to address the wicked problems of the world (framed by the United Nations' Sustainable Development Goals).

Through the Common Core modules, students will think critically about real-world problems, empathise with local and global communities and be challenged to effect change. For more information on the Common Core Curriculum, please visit <https://www.sp.edu.sg/sp/education/common-core-curriculum>.

All full-time diploma students are required to take a compulsory Education and Career Guidance module in SP. Students will take Education and Career Guidance – Personal Development (30 hours) in their first year.

All students are required to take one compulsory Wellness for Life (WFL) module for one semester in their first year in SP. In their second and third year, students may sign up for WFL module as an optional module.



COMMON ICT PROGRAMME

DCITP – S32



Unlock Your Future in IT

Are you passionate about Information Technology (IT) but undecided about which IT course to take? The Common ICT Programme (DCITP) is designed to help you make an informed choice.

This semester-long programme is designed to give you a broad introduction to the Infocomm landscape, offering insights into various job roles, career pathways and employment opportunities. By the end of Year 1 Semester 1, you'll have gained useful insights from the various opportunities enabling you to make an informed choice among the three IT courses available for pursuit.

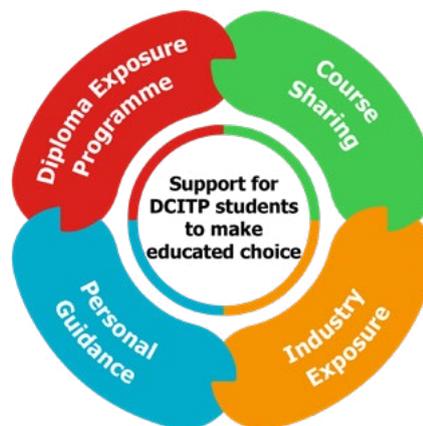
WHAT'S NEXT

To be streamed to either DAAA, DCDF or DIT course after one semester in SP:

- Diploma in Applied AI & Analytics (DAAA - S30)
- Diploma in Cybersecurity & Digital Forensics (DCDF -S54)
- Diploma in Information Technology (DIT - S69)

WHAT YOU CAN EXPECT

- Gain insights into the three courses by exploring various modules such as frontend development, fundamentals of computing, and mathematics.
- Take part in the Diploma Exposure Programme, which includes a one-day event featuring course sharing, Q&A sessions, and hands-on activities aimed at providing a better understanding of the courses.
- Utilise Education and Career Guidance to identify your career goals, then select a course aligned with those goals. This involves gaining industry exposure through career talks and receiving guidance from your tutor.



ENTRY REQUIREMENTS

Range of Net 2023 JAE ELR2B2: 3 – 14

Aggregate Type: ELR2B2-C

SUBJECT	GRADE
English Language	1 – 7
Mathematics (Elementary/Additional)	1 – 6
Any one of the following relevant subjects for the ELR2B2-C Aggregate Type:	1 – 6
<ul style="list-style-type: none"> • Biology • Biotechnology • Chemistry • Computing / Computer Studies • Creative 3D Animation • Design & Technology • Electronics / Fundamentals of Electronics • Food & Nutrition / Nutrition & Food Science • Exercise & Sports Science • Physics • Science (Chemistry, Biology) • Science (Physics, Biology) • Science (Physics, Chemistry) 	



After my O-Levels, I was uncertain about my IT-related career path. DCITP provided a structured approach, allowing me to explore various diplomas within the School of Computing in the first semester, giving me the clarity I needed. I gained essential computing knowledge, forged lasting friendships, and discerned the differences between the three computing diplomas. Fundamentals of Programming introduced me to JavaScript and sparked my interest in pursuing a career in Applied AI and Analytics. Overall, DCITP has truly shaped my IT aspirations. 🗨️

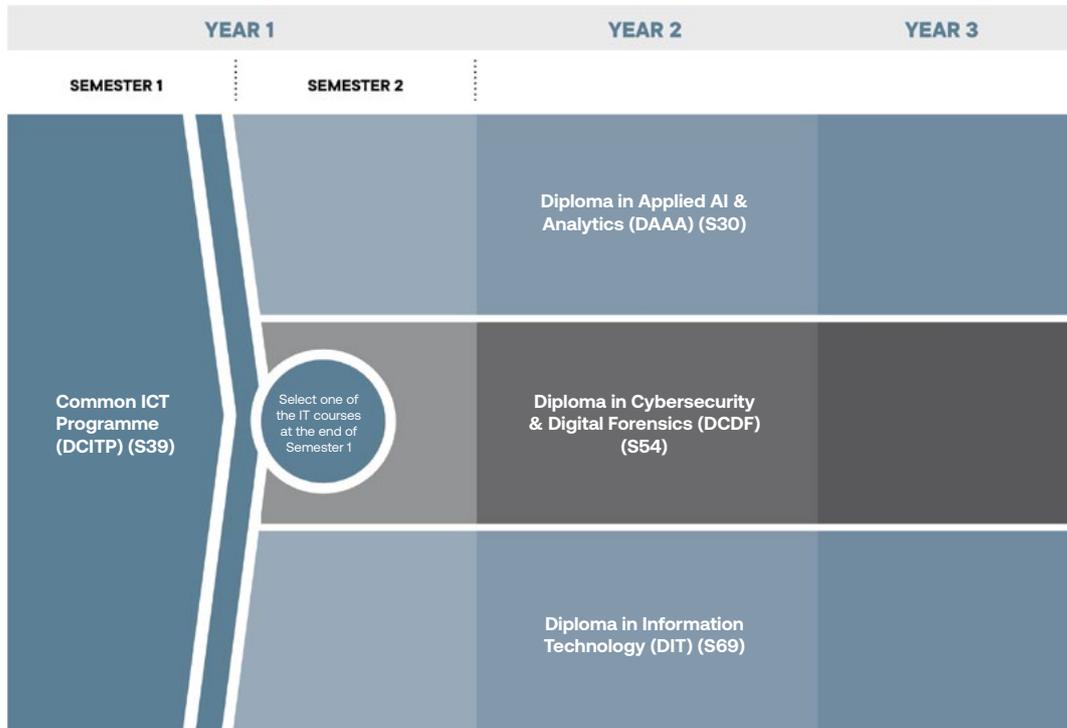
Chan Yee Jie

Common ICT
Programme Alumnus



WHAT YOU'LL STUDY

The Common ICT Programme is a semester-long full-time programme.



The common first semester will lay the foundation for programming and computing for Diploma in Applied AI & Analytics (DAAA), Diploma in Cybersecurity & Digital Forensics (DCDF), and Diploma in Information Technology (DIT) courses.

This program will allow you to have more time to explore your interests in the first semester and make an informed decision on preferred IT-related course to pursue later.

Through the Education & Career Guidance activities, you will then learn to develop your portfolios and gain insights into the respective job roles and industries in the IT sectors.

FIRST YEAR (SEMESTER 1)

- Common Core Modules
- Front-End Web Development
- Fundamentals of Computing
- Fundamentals of Programming
- Mathematics

ELECTIVES

The SP elective framework offers students options to pursue their passion and / or meet different career needs, and is an integral part of the holistic education we seek to provide to our students. The learning experiences of this elective framework help students in their development as self-directed, versatile, life-long learners, which are essential in today's volatile and changing societal as well as occupational landscape.

Students who are interested to explore additional new skills and abilities will have the opportunity to take up to five electives. Certificates and minors will be awarded when students complete a suite of related elective modules. Please visit <https://www.sp.edu.sg/sp/education/elective-modules> for details of this elective scheme and the full list of electives.

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All students are required to take one compulsory Wellness for Life (WFL) module for one semester in their first year in SP. In their second and third year, students may sign up for WFL module as an optional module.



CYBERSECURITY & DIGITAL FORENSICS

DCDF – S54

Formerly known as Diploma in Infocomm Security Management (DISM)



Cyber Defenders of Tomorrow

In today's digital age, the threat of cybercrime is more real than ever. As we increasingly rely on the Internet to store and manage vital information, it becomes crucial to protect it from cybercriminals. Join the Diploma in Cybersecurity & Digital Forensics (DCDF) course and be part of the elite force to keep the Cyber World safe!

DCDF offers a rewarding, industry-aligned curriculum that equips you with cybersecurity skills to counter offensive attacks, adopt defensive measures and implement investigative techniques. With the skills of the future in your armoury, you'll open up a world of opportunities in the digital realm.

FURTHER STUDIES

You can pursue further studies at local or international universities, with the latter granting direct entry into the second or third year of related undergraduate programmes in countries such as Australia, the United Kingdom and the United States.

SCHOLARSHIPS

- Centre for Strategic Infocomm Technologies (CSIT) Diploma Scholarship
- Defence Science and Technology Agency (DSTA) Polytechnic Scholarship
- DSO National Laboratories (DSO) Diploma Scholarship
- Singapore Polytechnic Scholarship
- Singtel SHINE Cadet Programme

WHAT YOU CAN EXPECT

+ Choose from three specialised tracks that focus on different aspects of cybersecurity:

- Cyber Offensive and Operational Technology
- Cyber Defence Security
- Security Incident Management

+ INDUSTRY NOW CURRICULUM (INC)

Experience real-world cybersecurity roles and earn module credits at our student agency. Learn hands-on from real client projects by joining the Security Operations Centre.

+ INDUSTRY CERTIFIED CURRICULUM (IC2)

Earn industry-aligned certifications and open doors to exciting career opportunities to pursue your passion.

+ CYBER WARGAME CENTRE

Prepare for REAL cyberthreats through realistic scenarios recreated in this learning space.

+ ACCELERATED PATHWAY PROGRAMME

Take up modules taught by Singapore University of Technology and Design (SUTD) or Singapore Management University (SMU) and complete your degree earlier.

ENTRY REQUIREMENTS

Range of Net 2023 JAE ELR2B2: 5 – 12
Aggregate Type: ELR2B2-C

SUBJECT	GRADE
English Language	1 – 7
Mathematics (Elementary/Additional)	1 – 6
Any one of the following relevant subjects for the ELR2B2-C Aggregate Type:	1 – 6
• Biology	
• Biotechnology	
• Chemistry	
• Computing / Computer Studies	
• Creative 3D Animation	
• Design & Technology	
• Electronics / Fundamentals of Electronics	
• Food & Nutrition / Nutrition & Food Science	
• Exercise & Sports Science	
• Physics	
• Science (Chemistry, Biology)	
• Science (Physics, Biology)	
• Science (Physics, Chemistry)	

CAREER OPTIONS

- Cyber Risk Analyst
- Forensic Investigator
- Incident Investigator
- Security Engineer
- Security Operations Analyst
- Vulnerability Assessment and Penetration Testing Analyst



Through the SP-Govtech Polytechnic Technology Programme, I interned at Govtech for a full year in lieu of academic studies. At Govtech, I was attached to the Government IT Security Incident Response department where we coordinated response and investigation of cybersecurity incidents. The internship has not only allowed me to grow in terms of technical expertise, but to also have a better understanding of what I aspire for in my future career. 🗨️

Alwis Lim

Lee Kuan Yew Award Recipient
DISM Gold Medallist
IMDA Gold Medal Recipient
Internship at GovTech Singapore



WHAT YOU'LL STUDY

The Diploma in Cybersecurity & Digital Forensics is a three-year full-time programme.



FIRST YEAR

- Common Core Modules
- Digital Forensics and Investigation
- Elective 1
- Ethical Hacking Essentials
- Front-End Web Development
- Fundamentals of Computing
- Fundamentals of Programming
- Infocomm Security and Network Fundamentals
- Linux Administration and Security
- Mathematics

SECOND YEAR

- Applied Cryptography
- Back-End Web Development
- Common Core Modules
- Data Protection for Cyber Security
- Elective 2
- Elective 3
- Malware Reverse Engineering
- Securing Microsoft Windows
- Specialist Elective 1
- Specialist Elective 2

Students are allowed to choose to take Specialist Electives in the area of their particular interest. They can choose from the following specialised tracks:

+ Cyber Offensive and Operational Technology (COPT)

- Offensive Security
- Industrial Control Systems Cyber Range Essentials

+ Cyber Defence Security (CDS)

- Cybersecurity Infrastructure Configuration
- Secure Coding

+ Security Policy and Incident Management

- Advanced Digital Forensics
- Security Incident Management

+ Industry Project Learning Approach

In Year 2 Semester 2, students can opt into an Industry Now Curriculum (INC). In lieu of attending module classes, students work in cybersecurity job roles such as associate security analyst or security operations analyst at the cybersecurity student agency Project INC on curated real client industry projects or security operations centre to gain credits and gain exposure to the latest technologies. Students get to network with industry partners and master industry current and relevant skills through the Industry Project Learning Approach — Project INC.

THIRD YEAR

In Year 3, students can choose to continue their training in one of the following pathways:

+ Year-Long Internship Pathway

- Internship Programme

+ University Pathway

- Computing Elective 1
- Computing Elective 2
- Computing Elective 3
- InfoSec Project Development and Management

+ Industry Project Pathway

- Computing Elective 1
- Computing Elective 2
- Computing Elective 3
- Internship Programme
- InfoSec Project Development and Management

Note: For **University Pathway**, students to complete three Computing Electives administered by the university. For **Industry Project Pathway**, students can choose to complete either 22-week internship or three Computing Electives from a curated list or from industry certification courses.

ELECTIVES

The SP elective framework offers students options to pursue their passion and / or meet different career needs, and is an integral part of the holistic education we seek to provide to our students. The learning experiences of this elective framework help students in their development as self-directed, versatile, life-long learners, which are essential in today's volatile and changing societal as well as occupational landscape.

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All students are required to take one compulsory Wellness for Life (WFL) module for one semester in their first year in SP. In their second and third year, students may sign up for WFL module as an optional module.

INFORMATION TECHNOLOGY

DIT – S69



Master the Language of the Future

Embark on the Diploma in Information Technology (DIT) course at the School of Computing and empower people to live meaningful lives enabled by technology.

Be at the forefront of digital transformations. From mobile applications to advancements in information technology, you will explore a wide range of skillsets that shape the future of our society.

SCHOLARSHIPS

- Centre for Strategic Infocomm Technologies (CSIT) Diploma Scholarship
- Defence Science and Technology Agency (DSTA) Polytechnic Scholarship
- DSO National Laboratories (DSO) Diploma Scholarship
- Singapore Polytechnic Scholarship

FURTHER STUDIES

Quench your thirst for knowledge at local or international universities! Our graduates may receive module exemptions or advanced standings with relevant courses offered locally at NUS, NTU, SIT, SUTD and SMU. You can also gain direct entry into the second or third year of study in relevant undergraduate degree courses in countries including Australia and the United Kingdom.

WHAT YOU CAN EXPECT

+ **Tailor your learning experience and choose from any one of three specialisations:**

- Immersive Simulation

Explore augmented and virtual reality (AR/VR) to create interactive digital environments.

- Software Development

Master programming, software engineering and create innovative applications.

- User Experience (UX)

Design intuitive digital experiences, conduct user research and optimise usability.

Under these specialisations, you will hone industry-relevant skills and be well-equipped with the latest tools, technologies, and methodologies to thrive in the IT industry.

+ **INDUSTRY NOW CURRICULUM (INC)**

If you thrive on learning by doing, opt for this alternative learning pathway and gain module credits by working on real industry projects.

+ **PROFESSIONAL CERTIFICATIONS**

Enhance your industry recognition by taking up professional certifications from companies such as Microsoft and AI Singapore.

+ **IMMERSIVE LAB**

Gain practical experience by working on real client projects with industry partners.

+ **ACCELERATED PATHWAY PROGRAMME**

Take up modules taught by Singapore University of Technology and Design (SUTD) or Singapore Management University (SMU) and complete your degree earlier.

ENTRY REQUIREMENTS

Range of Net 2023 JAE ELR2B2: 4 – 15

Aggregate Type: ELR2B2-C

SUBJECT	GRADE
English Language	1 – 7
Mathematics (Elementary/Additional)	1 – 6
Any one of the following relevant subjects for the ELR2B2-C Aggregate Type:	1 – 6
• Biology	
• Biotechnology	
• Chemistry	
• Computing / Computer Studies	
• Creative 3D Animation	
• Design & Technology	
• Electronics / Fundamentals of Electronics	
• Food & Nutrition / Nutrition & Food Science	
• Exercise & Sports Science	
• Physics	
• Science (Chemistry, Biology)	
• Science (Physics, Biology)	
• Science (Physics, Chemistry)	

CAREER OPTIONS

- DevOps Engineer
- Project Manager
- Scrum Master
- Software Engineer
- Software Quality Assurance Engineer
- UI Designer
- UX Designer



During the internship, I was given the opportunity to be a product manager where I had to execute tasks such as user research and product visioning. This role helped me gain a better understanding of how my code can solve real-world problems. I was also able to apply knowledge and skills learnt in school to my work. 🗨️

Azzahabie Sadali
Internship at
Economic Development Board



WHAT YOU'LL STUDY

The Diploma in Information Technology is a three-year full-time programme.



FIRST YEAR

- Back-End Web Development
- Common Core Modules
- Design for User Interaction
- Elective 1
- Front-End Web Development
- Fundamentals of Computing
- Fundamentals of Programming
- Fundamentals of Programming 2
- Mathematics

SECOND YEAR

- Continuous Integration and Continuous Delivery
- Database Systems
- Elective 2
- Elective 3
- Secure Coding
- Software Engineering Practice
- Specialist Elective 1
- Specialist Elective 2

Students are allowed to choose to take Specialist Electives in the area of their particular interest. They can choose from the following fields:

+ Immersive Simulation Technology

- Introduction to Immersive Simulation
- Immersive Simulation Development Techniques

+ Software Development

- Java Programming
- J2EE Application Development

+ User Experience (UX) Design

- Digital Visual Design
- User Interface Design

+ Industry Project Learning Approach

In year 2 semester 2, students can opt into an Industry Now Curriculum (INC). In lieu of attending module classes, students work in IT job roles such as software developers at the software student agency Project INC on curated real client industry projects to gain credits and gain exposure to the latest technologies. Students get to network with industry partners and master industry relevant skills through this Industry Project Learning Approach — Project INC.

THIRD YEAR

In Year 3, students can choose to continue their training in one of the following pathways:

+ Year-Long Internship Pathway

- Internship Programme

+ University Pathway

- Computing Elective 1
- Computing Elective 2
- Computing Elective 3
- Software Application Project

+ Industry Project Pathway

- Computing Elective 1
- Computing Elective 2
- Computing Elective 3
- Internship Programme
- Software Application Project

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