

Application form for Charpak Lab 2020

Your Personal Details

Surname	Chandak
First name(s)	Devansh
Previous surname (if married)	
Date of Birth	20 November, 1999
Gender	Male
Nationality	Indian
Place of Birth (city)	Kolkata
Full Address	Flat-3A, 8, Lake Range, Sanskaar Apartments, Kolkata
Postal Code	700026
City/Town	Kolkata
Country	India
Mobile	79805 34649
Telephone	033 2466 7254
Email	dchandak99@gmail.com
Highest academic degree obtained	10+2
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Details of your Institution in India

Name of the Institution in India	Indian Institute of Technology Mumbai
Name of program enrolled in	Bachelor of Technology
Level of degree	Bachelor's
Stream	Computer Science and Engineering
State	Maharashtra
City	Mumbai
Download NOC	NOC

Contact Person from the Institution in India (If You are a Student)

Name of your contact person in India	Amitabha Sanyal
Designation of your contact person in India	Professor
Department or laboratory of your contact person	Computer Science and Engineering
Full Address	IIT Bombay Campus, Powai, Mumbai
Postal Code	400076
City/Town	Mumbai
State/Union Territory	Maharashtra
Country	India

Telephone

+91 88790 57707

E-mail

as@cse.iitb.ac.in

Your Other application(s)

Have you applied for any other scholarship (Institution Scholarship, Government scholarship, etc) No

Have you previously been awarded a French Embassy Scholarship or French Government Scholarship? No

Your Previous stay in France

Have you ever been to France? No

Are you currently in France? No

Have you ever studied or stayed abroad? Yes

Purpose Tourism

City Bangkok, Singapore, Kuala-Lampur

Please specify the year 2008, 2012

French Language Proficiency

Do you hold a DELF / DALF certification in French? No

Do you hold any other qualification in French?(school / coaching classes /self-taught or any other) Yes

If Yes Please specify Self taught upto basic fluency, using the Duolingo app

Where did you hear about this scholarship?

Peer/Senior

XIIth Marksheets and certificates

Name of the Institution Birla High School, Kolkata

Year of completion of your XII Board exam 2018

Type of Board CBSE

Score Type Percentage

CGPA Score 99

CGPA 10 Equivalent 9.90

Stream Science

Country India

City Kolkata

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Download Marksheet

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Institution / University marksheets and degrees

Name of the Institution	Indian Institute of Technology Mumbai
Year of completion of your Degree	2022
Level of degree pursuing / obtained	Bachelor's
Stream	Computer Science and Engineering
Name of the Degree obtained	B Tech
Score Type	Score 10
Score	9.88
CGPA/Grade	9.88
Country	India
City	Mumbai
Download Marksheet	Download

Your Research Internship Program in France

Name of Laboratory/Institution in France	Institut National de Recherche en Informatique et en Automatique - INRIA
Name of the Program / Department	Internship at INRIA Nancy
Stream	Computer Science and Engineering
Region	Grand Est (Alsace, Champagne, Lorraine)
City	Nancy
Medium of Instruction	English
Start date - End date	13 May, 2020 - 10 July, 2020
Duration	Months 1 Days 27
Type of internship	Unpaid

Contact Person from the Institution in France

Name of your contact person in France	Steve Kremer
Designation of your contact person in France	Research Director, INRIA
Department or laboratory of your contact person	INRIA, Nancy
Full Address	615, rue du Jardin Botanique
Postal Code	54600
Telephone	+33 3 54 95 86 60
E-mail	Steve.Kremer@inria.fr
City/Town	Nancy

Region	Grand Est (Alsace, Champagne, Lorraine)
Country	France

Your Application Status

Confirmation of admission in the French Institution	Confirmed Admission/ Acceptance Letter
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Internship / Employment record (in last 2-3 years)

Do you hold any internship or work experience?	Yes
Organisation	Citytech Software
Your Designation and Role	Software Engineering Intern
Period from - Period to	2018-11 - 2018-12
Work or Internship Document	Document of Work or Internship

Organisation	Indian Institute of Technology Kanpur
Your Designation and Role	Machine Learning Research Intern
Period from - Period to	2019-05 - 2019-06
Work or Internship Document	Document of Work or Internship

Organisation	Spencer's Retail
Your Designation and Role	Data Analyst
Period from - Period to	2019-06 - 2019-07
Work or Internship Document	Document of Work or Internship

Organisation	Indian School of Business Hyderabad
Your Designation and Role	Quantitative Research Analyst
Period from - Period to	2019-12 - 2020-01
Work or Internship Document	Document of Work or Internship

Recommendation Letter

Do you hold any internship or work experience?	Yes
Recommendation Letter	Recommendation Letter

Question 1: Briefly explain your research/internship project and how is it coherent with your current Bachelor/Master curricula?

I was thrilled when I was accepted as an intern at Inria under Professor Steve Kremer. I would be working on formal verification of cryptographic protocols. I have always been fascinated by the way information is kept secured over the internet and other susceptible networks. Importance of cyber safety can be gauged by the fact that 9 out of 10 users aren't aware that their photos, videos and documents aren't safe online. Having taken courses in cryptography, I was really keen on taking a research project related to it.

I will be working in the PESTO team. My project is on extending SAPIC's current translation to ensure soundness, using applied pi calculus. SapiC is a tool that translates protocols from a high-level protocol description language, analysable using Tamarin Prover. Tamarin prover is a protocol verification tool which has successfully verified standards such as TLS 1.3, 5G AKA, and industrial protocols like OPC UA. Goal of the internship is to extend SAPIC to observational equivalences, to use Tamarin extensions. Functional programming paradigms excite me and I was pleased to hear from the Professor that we will implement the translation using functional programming languages, mainly Ocaml and Haskell.

Being a Computer Science(CS) undergraduate, it will be an enriching experience for me to implement and apply course knowledge to actual verification and extensions of a security protocol. Cryptography is the bridge between theoretical and applied CS, with applications in cyber security and data protection.

“Cryptography is the ultimate form of nonviolent direct action.”

Question 2: Explain why and how you chose the French institution/laboratory to which you have applied or have been admitted. What other benefits do you expect from your stay in France?

Inria is the French government organisation for research in Computer Science, and is the flag-bearer in concurrent research and innovation. It has driven digital innovation and research in Europe for over 50 years.

Inria has been a great pioneer in leading innovations such as the Web, the Cascading Style Sheets(CSS). So, after my seniors recommended me to try for Inria, and after some research myself, I decided to try for it. I had explored Data Science and Machine Learning in previous internships but had never worked hands-on in cryptography. I had only taken some courses in it, which was enough to fascinate me. After going through the teams, the PESTO team really matched my interests and the work they did seemed very interesting and challenging. They worked on design and analysis of security protocols. So, I applied to work under Professor Steve Kremer, with my resume, explaining my motivations and previous research experience. This application was made when the Professor came through our internship cell with an application form.

15 days of nervous wait followed.

My joy knew no bounds, when I received his confirmation. The research experience and international exposure would be valuable for my career. It would also enhance my French Language proficiency. I am really excited to be interning in a historically diverse and colourful country like France! I have heard a lot about the work-life balance in France and the cultures at different places. Also, I look forward to exploring other parts of Europe as well.

Question 3: What are your academic and professional goals? Explain how the research/internship program will help you achieve these goals.

“Computer Science(CS) is the operating system for all innovation.”

I feel motivated by the fact that the CS curriculum develops skills, enabling us to build products capable of revolutionizing the world. My ambition to study further and do research in CS has developed out of academic experiences and research projects. I have acquired great interest in Artificial Intelligence and Cryptography, from courses and internships. I plan on doing a Masters with these specializations. I would explore more topics to gauge my interests, and make an informed decision.

Graduate study will refine my knowledge and abilities. I believe it will serve to give direction to my goal of a career as a research professional at an academic or commercial, research-oriented organisation or research teams at companies. My long-term goal is to use research to create innovative products and solutions.

This internship will help me get hands-on experience on solving an ongoing problem in Cryptography, putting me in a better position for my MS. It will increase my research network, provide international exposure and help me improve based on professional feedback from researchers at Inria. Living in another country will help me grow culturally and enhance my soft skills, by enabling me to work in a diverse environment. Also, French is a major language of international communication. Being proficient in French will give me a competitive edge.

Thus, as a whole, this internship will be a vital part of my future plans, giving me the skills and expertise to achieve my goals.