PRAKHAR NAGPAL

+447902945664 London, UK prakhar.nagpal03@gmail.com prakharnagpal pn320 prakharnagpal.com
Third Year Computing Undergraduate at Imperial College London.

EDUCATION

Imperial College London *October 2020 - June 2023*
Computing (Artificial Intelligence and Machine Learning) BEng

INDUSTRIAL EXPERIENCE

FiveAI: Software Engineering Intern *July 2022 - Oct 2022*

- Developed a DSL to allow Five to quickly perform queries over large test suite executions and perform better data analysis.
  E.g. "Find all the instances where (rule.COMFORT_01 succeeded AND ...), filter by parameter.robustness_min < -0.5"
- Compiling natural language query into SQL query. Using Python(s) ANTLR runtime, SQLAlachemy, and Athena AWS.
- Ensuring high performance and scalability (queries run over >500k test result instances), with compile time <0.2s.
- Working on an extension involving temporal logic to allow analysis of time series data.
  E.g. "Find all instances where rule.NO_COLLISIONS failed DURING event.OnRoundabout Occurred"

Imperial College London: Undergraduate Researcher (Contract Cheating) *July 2021 - September 2021*

- Analysed data scraped from the Chegg archives to show quantatative evidence of Chegg.com being used a resource to cheat.
- Developing an algorithm using Machine Learning to identify whether a posted image is of a monitor taken from a mobile device.
- Presented the findings at the International Conference for Academic Integrity.
- Used Python, selenium, requests, sciki-image, numpy, pandas.

PROJECTS

Imperial CLI *TypeScript: Axios, Concurrency, various third party apis*

- Created a CLI tool to allow students to automate fetching latest course notes, problem sets from different Imperial services (apis).
- Added a feature to export the coursework deadlines to google calendar, reducing the possibility of missing a deadline.

React News Widget *TypeScript: React, NewsApi*

- Created a news widget in TypeScript with React. Used TDD and Github actions to ensure continuous delivery.

PintOS *C, Git*

- Implemented an operating system framework for the x86 architecture that tested the understanding of the roles of kernels, virtual memory, memory organisation, concurrency, thread-safety, scheduling, user programs, system calls and multiple other concepts that are widely used in major operating systems today

WACC Compiler *Scala, Parsley*

- Developed a compiler for the WACC programming language as part of the Compilers module.
- Support for statically typed language, recursion, and OOPS concepts (classes, inheritance, multiple inheritance).

LANGUAGES, SKILLS AND INTERESTS

Languages	Fluent in English, well-versed in Hindi and novice in French.
Technical Skills	**Proficient:** Java, Python, TypeScript; **Familiar:** C++, Git, CSS
Interests	Poker, Chess, Theoretical CS and Mathematics, and Shooting Videos