# MANISH KUMAR

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## Work Experience

- **Quadeye India**, *Low Latency Software Developer-Full time* Jun'19 - July'23
  - **Description**: Wrote efficient and scalable automated trading systems in C++, which served as a platform for several strategies in the firm.
  - **Ownership**: Involved in the implementation and maintenance of the exchange-facing modules, and risk systems including real-time margin processes. Collaborated with external clients to deliver customized software solutions tailored to their requirements.
  - **Skills**: C++, Critical Thinking, Efficient coding, Maintainability of code, Trading systems
- **Amazon India**, *Software Developer-Intern, India-Payments Team* May'18 - Jul'18
  - **Description**: Worked on Unified Payments Interface, a payment method that allows bank-to-bank instant transfer 24x7. Automated pipeline for continuous deployment of new code changes.
  - **Integration Tests**: Wrote integration tests for four APIs including **Collect** API. These tests are used as approvals for progressing new changes through the pipeline into the production environment.
  - **Skills**: Microservice architecture, Debugging, Software Testing, CI/CD

## Projects

- **Java Compiler**, *Course Project, Prof. Subhajit Roy* Jan'18 - Apr'18
  - **Description**: In a group of 3 members, made a compiler in Python that parses a subset of Java grammar and generates an intermediate representation that could be converted to x86 assembly language.
  - **Features Implemented**: Objects, method overloading, nested arrays, strings, interfaces, block scoping, basic type checking and self-generated error messages. Arithmetic, logical and relational operations were supported.
- **HTTP Proxy Server**, *Course Project, Prof. Amey Karkare* Jan'18 - Apr'18
  - **Description**: Built a HTTP proxy web server in *haskell* that restricted access to admin-defined blacklisted sites.
  - **Concurrent server**: Multi-threaded server with MVar semaphore in order to share data among the threads.
  - **Polling Mechanism**: Implemented polling to avoid blocking send and receive operations with destination server.
- **Buffer Vulnerabilities Identifier for C**, *Supervised Project, Prof. Subhajit Roy* May'17 - Jul'17
  - **Objective**: Aimed to reduce possible buffer overflow cases in *C* by identifying memory-sensitive snippets.
  - **VSCode Extension**: Implemented an extension that could check as well as replace these snippets.
  - **Implementation**: "Check" plugin uses *pycparser* to generate *AST* of the user's code and marks unsafe snippets in the code. The "Replace" plugin allows the user to replace the marked code with a preset alternative.

## Self Projects

- Made a **search engine** limited to web pages of IIT Kanpur and student profiles using python scrapy web crawler and elastic search technologies. Link - https://tinyurl.com/yaz7lmr2
- Made an application for Code.Fun.Do 2017, which predicts probable objects in picture & provides appropriate wiki links.

## Positions of Responsibility

- **Mentor**, Quadeye: Smooth onboarding of a mentee and ensuring upon his doubts clearance and feedbacks.
- **Student Guide**, Counselling Service: Helped a group of 6 freshmen get acclimated to college environment.
- **Secretary**, Robotics Club: Facilitated conduction of workshops and inter-hall event *Takneek*.

## Education

- **Indian Institute of Technology, Kanpur** India
  *Bachelor of Technology in Computer Science;* ***CPI: 9.01 / 10.0*** *July. 2015 – June. 2019*
- **Academic Excellence Award** by IIT Kanpur for the year 2017-18.

## Programming Skills

- **Languages**: C++, Python, Javascript, Haskell **Web Technologies**: CSS, Node.js, Django
- **Utilities**: Linux, GDB, Git, Bash, Vim, LaTeX, MySQL, MIPS Assembly Language

## Coursework

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|---|---|---|---|
| Concurrent Programming | Operating Systems | Computer Networks | Compiler Design |
| Computer Systems Security | Database Systems | Functional Programming | Distributed Systems |