My name is Shubham Shukla, I completed my Masters in Computer Science from University of Minnesota. My major research was focused on distributed systems, cloud computing and machine learning.

My professional journey has been characterized by a diverse range of experiences and contributions across various domains within computer science. In my current role at Amazon, I am leading efforts in the development of a sophisticated inventory and classification system for enhancing data security, ensuring compliance with regulations, and safeguarding personally identifiable information. This initiative is crucial in the evolving landscape of data management and regulatory compliance, contributing to the broader national interest in securing sensitive data.

The significance of my current role cannot be overstated, particularly considering the heightened scrutiny tech companies face from Congress regarding consumer data, especially that of children and teens. Building this solution is vital for Amazon and, consequently, the United States. The increasing scrutiny surrounding organizations' management of personal data underscores the urgency and importance of this endeavor.

As the Vice President at BlackRock, I played a pivotal role in overseeing AladdinCheckouts and Aladdin Performance Toolkit. This involved optimizing system performance through synthetic monitoring systems, ensuring the reliability and seamless operation of critical financial platforms. My prior experiences include senior software engineering roles in fintech at Bloomberg L.P., where I developed low-latency distributed systems for automation in trading workflows (Rule Builder -RBLD). This work directly impacts the financial industry's efficiency and responsiveness, supporting the broader national interest in economic growth and stability.

The implementation of various features within RBLD has yielded remarkable results, as evidenced by the significant surge in fixed income automation activity since 2021. Year-to-date volumes until April 2023 have soared to unprecedented levels, marking a doubling of activity compared to previous years. Furthermore, an in-depth analysis of trading data has revealed a staggering five-fold increase in round-lot activity, with transactions exceeding $5 million. This surge underscores the heightened adoption of RBLD by clients, with an increasing number leveraging its automated capabilities to execute larger orders efficiently. [source-https://www.bloomberg.com/company/press/bloomberg-enhances-automated-trading-solutions-to-strengthen-client-execution/]

My top accomplishments include:

1.In my role as a Senior Software Engineer, I spearheaded the development of critical features within the financial technology sector. Notably, I designed and implemented an on-demand routing system, granting traders autonomy in deciding when to route orders and providing additional information such as the broker and share quantities. This empowered traders to make real-time decisions tailored to market conditions.

I also developed the timed release feature, a sophisticated tool enabling clients to schedule order executions for future times strategically. This groundbreaking functionality allows users to create

rules for trades in fixed income and equities, providing the flexibility to delay orders until specific market events or for predetermined durations. By harnessing this capability, clients can automate order routing effectively, ensuring precise execution timing and accessing markets previously unavailable due to trading hour disparities.

To bring this feature to fruition, I led the development of a robust order queuing system designed to meet its unique demands. This endeavor presented formidable challenges, calling for the implementation of distributed architecture, fault tolerance, minimal failover time, and ultra-low latency for rapid response. Overcoming these hurdles, I engineered a sophisticated solution by embracing a primary-follower cluster paradigm and integrating a circular buffer mechanism.

2.As part of a hackathon at BlackRock, I engineered an automated routing system using Apache Flink. This fully distributed Java system, leveraging Apache Kafka and Redis, supported efficient order routing for traders.

3. I meticulously compared various cloud providers, delving into the intricacies of service patterns to identify optimal contenders for serverless porting. The in-depth analysis, informed by an acute understanding of BlackRock's unique needs, has been instrumental in crafting a robust strategy for our cloud endeavors. This strategic initiative extends beyond mere migration, emphasizing cost-efficiency and budget optimization in cloud operations.

In my current role at Amazon within the Global Media and Entertainment (GME) security organization, I am actively engaged in a pivotal position that aligns seamlessly with my expertise and ongoing commitment to advancing technology solutions.

Responding to recent regulations, including DMA and COPPA, presented a complex challenge that demanded a strategic and technologically advanced solution. With terabytes of data dispersed across various data stores and thousands of systems, the risk associated with data management and compliance had escalated. This scenario necessitated the application of my expertise in building stream/event-driven systems capable of handling large volumes of data efficiently.

My proficiency in big data technologies, particularly Apache Flink and Kafka, has proven crucial in navigating the intricacies of large-scale data management. Drawing on my experience in finance technology, I bring a unique perspective to address the multifaceted challenges presented by the diverse data landscape at Amazon. Furthermore, my prior cloud experience facilitates the efficient utilization of AWS cloud resources, allowing for the scaling of systems to meet the demands of a dynamic and evolving environment.

Beyond my professional endeavors, I am deeply involved in philanthropic initiatives aimed at community development and social responsibility. I contribute to mentoring underprivileged high school students for the FIRST Robotics event, empowering them with invaluable skills and perspectives. Additionally, I engage in community service initiatives, including supporting the Leukemia and Lymphoma Society (LLS) in their fight against cancer.

As an enthusiastic member of the Institute of Electrical and Electronics Engineers (IEEE), I actively contribute to the advancement of my field and engage with fellow professionals to foster collaboration and knowledge sharing. Notably, I have applied to serve as a judge in esteemed awards programs such as the Stevie Awards and the SIIA CODiE Awards, leveraging my expertise to evaluate and recognize outstanding contributions to technology and innovation.

I am honored to serve as a judge for the 2023-2024 Hudson County STEM Showcase, the premier science fair in Hudson County, as well as for the Terra New York City STEM Fair. Through these roles, I actively contribute to nurturing and supporting young talent in the STEM industry, providing invaluable guidance and encouragement to the next generation of innovators and problem solvers. By volunteering my time and expertise in this capacity, I am deeply committed to giving back to society and fostering a culture of excellence and achievement in STEM education. My involvement as a judge reflects my dedication to empowering and inspiring budding scientists and engineers, aligning with my broader commitment to advancing the fields of science, technology and, engineering.

In addition to my past achievements, my expertise in distributed systems and innovative problem-solving approach position me as a valuable asset for addressing pressing challenges in Amazon Security. Specifically, I am poised to contribute significantly to the current project focused on identifying personal data compliance—an issue of paramount importance for organizations grappling with increasing scrutiny over consumer data, especially concerning child and teen data. My proven track record in developing sophisticated solutions, such as the timed release feature and the robust order queuing system, demonstrates my ability to navigate complex technical landscapes and deliver impactful outcomes. By leveraging my skills and experience, I am committed to advancing Amazon's mission of enhancing data security and compliance measures, thereby safeguarding not only the company's interests but also those of its customers and stakeholders.