

Utkarsh Bajaj

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Mountain View, CA

EDUCATION

Carnegie Mellon University
Master of Science in Software Engineering

Mountain View, CA
Aug 2024 – Dec 2025

SKILLS

- Programming Languages: C, C#, C++, Python, JavaScript
- Databases: Microsoft SQL Server, MySQL, MongoDB
- Frameworks and Tools: .NET, Docker, Azure, NumPy, pandas, Node.js, Socket.io, Vim, Neovim, Git

WORK EXPERIENCE

Microsoft

Software Engineer, Azure Automation

Hyderabad, India
Jul 2022 – Jul 2024

- Developed **C# application** to migrate PowerShell 5.1 and Python 3.8 customer scripts from **VM-based monolithic executions to containerized microservices architecture** using **.NET Framework and Docker**, ensuring adherence to agile methodology
- Enhanced system security by executing scripts in isolated Hyper-V containers, **boosted success rates from 99.8% to 99.9%** by eliminating VM dependencies and resolving customer-reported bugs for over **200M+ monthly Python and PowerShell executions** during the migration process
- Designed and implemented internal **APIs** by configuring localhost inside containers and **developed PowerShell cmdlets and Python packages** that enabled customers to retrieve assets (e.g., certificates, credentials) from their Azure accounts using their scripts
- Collaborated with team to debug and deploy microservice for container-server communication, facilitating expansion into new regions. Initiated **automation of monitoring and continuous deployment scripts**, reducing work hours required for scaling to additional regions and data centers
- Acted as on-call engineer, swiftly addressing and resolving customer-reported incidents (CRIs) and service-related issues, leading to **decrease in service-related calls and enhanced customer satisfaction scores**
- Awarded [Culture Champion](#) in Dec 2022 for embodying company's value of fostering a growth mindset

Software Engineering Intern, Azure Automation

Jan 2022 – Jun 2022

- Developed C# application using .NET Core and Docker to enable PowerShell 7.2, Python 3.10 container jobs on Azure Automation, **covering 3000+ lines of code with unit testing for 95%+ test coverage** and robust failure detection
- Achieved significant adoption with **150+ customers successfully running 10,000+ jobs** in preview, paving path for migrating existing Azure Automation runtimes to containers

PROJECTS

Cache Simulator

Oct 2024

- Developed cache simulator in C, implementing **LRU cache algorithm**. Designed to process load and store instructions, simulator calculated **hits, misses, dirty bytes, evictions, and dirty bytes evicted** based on configurable sets, blocks, and associativity. Gained hands-on experience in **cache management and performance optimization**

[Codeforces Rating Updates](#)

Aug 2021

- Engineered **end-to-end application** that automates the delivery of Codeforces contest rating updates, **utilizing Google Firebase for user data management and AWS EC2 for execution of Python scripts**
- Hosted **user interface, made with HTML, CSS and JavaScript** on [Github Pages](#), application sends email to the user upon rating publication, sparing need for manual checks on Codeforces website

[Find IMDB Ratings](#)

Oct 2020

- Created **Python script using 'BeautifulSoup', 'requests', and 'pandas'**, scrapes web for movies and stores data in .csv file for user analysis, at [Hacktoberfest](#) 2020, attracted multiple forks and contributions from 5+ individuals on GitHub

LEADERSHIP/ACHIEVEMENTS

- Chaired [ACM Manipal](#), led a team of 10 to organize national programming competition, [TechTatva](#) 2020 with 200+ participants, mentored 5+ juniors in **problem solving through data structures and algorithms using C++**
- Achieved peak **contest rating: 1839** on [Leetcode](#), securing position in **top 7% contestants globally**