PETER SINGH

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SOFTWARE ENGINEERING | COMPUTER VISION | ALGORITHM DEVELOPMENT

Detail-driven, self-motivated Software Engineer highly regarded for progressive experience in Computer Vision, Full-Stack Development, and Machine Learning. Proven success leveraging a combination of industry-standard and cutting-edge technologies to solve unique technological problems and maximize efficiency. Respected as a forward-thinking, influential leader and collaborator who guides team members in accomplishing consistent on-time, under-budget project completion while addressing unique functional needs. Exemplary educational qualifications include a forthcoming Bachelor of Science Honors in Computer Science from The University of Massachusetts.

SELECTED HIGHLIGHTS

- Designed and implemented a program at *BNY Mellon* that can automatically detect fraud in 1,000+ live transactions; developed 3+ major application components while revamping the app design, increasing potential workload 80%.
- Distributed the application over the cloud through cross-team collaboration with 20+ colleagues.
- Implemented and enhanced computer vision systems to detect tables and handwriting on 13 million patient records at *Hindsait*; Drove improvements that increased detection accuracy from 87% to 93%, and optimized run-time by 2x.
- Developed software that leveraged computer vision methods to detect traffic lights and guide an autonomous car; integrated U.K. signage through a feed from Cambridge's open-source library, using the OpenCV framework in C++.

CORE COMPETENCIES

- Software Design
- Neural Networks
- Image Processing
- Machine Learning
- Cross-Functional Collaboration
- Programming Paradigms
- Data Structures
- Project Management
- Troubleshooting & Debugging
- Team Leadership
- Computer Vision
- Algorithm Development
- Web Application Development
- Communication
- Performance Improvement

EDUCATION

University of Massachusetts – Amherst, Amherst, MA: 2020
Honors Bachelor of Science (Candidate) – Computer Science (GPA: 3.52)

- Relevant Coursework: Convolutional Neural Network Honors Research, Machine Learning, Data Structures, Artificial Intelligence, Computer Vision, Discrete Mathematics & Computational Theory, Computer Architecture & Paradigms, Advanced Computational Linguistics
- Awards/Honors: Commonwealth Honors College, Research Lab Honors, Dean's List, Leadership Scholarship
- Clubs/Activities: Senior University Debater, Hackathon Organizer, Science Advocacy Board Member
- Relevant Projects: Robotic Markov Localization-based Pathfinding, Full-Stack Academic Requirements Generator

Certifications or Additional Education:
Trinity College Dublin, Dublin, Ireland – *Study Abroad Program, Computer Science with a Focus on Computer Vision*

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PROFESSIONAL EXPERIENCE

BANK OF NEW YORK (BNY MELLON) | NEW YORK, NY | 2019

Software Tech Analyst

- Developed and implemented a program that automatically detected fraud in 1,000+ live transactions.
- Designed 3+ major application components while revamping the original design, increasing potential workload 80%.
- Distributed the application over the cloud through cross-team collaboration with 20+ colleagues.
- Implemented program functions through experience with Angular, Spring Boot, and Apache Kafka.

HINDSAIT | AMHERST, MA | 2019

Computer Vision Engineer

- Implemented and enhanced computer vision systems to detect tables and handwriting on 13 million patient records.
- Drove system improvements that increased detection accuracy from 87% to 93%, and optimized run-time by 2x.
- Leveraged expertise with a combination of technologies, including Python, OpenCV, Keras, and Google Vision.

PROJECTS

Autonomous Vehicle Traffic Light Detection |Trinity College Dublin | 2018

- Developed software that leveraged computer vision methods to detect traffic lights and guide an autonomous car.
- Integrated U.K. signage through a feed from Cambridge's open-source library, using the OpenCV framework in C++.

Robot Tag | University of Massachusetts Amherst Robotics Lab | 2019

- Developed algorithms to create tag playing robots; the robots were built with a few motors and a Kinect Sensor.
- Used the ROS-library in Linux with an Xbox Kinect scanner, programming one robot to pursue the other.

Hack UMass | University of Massachusetts | 2017

- Led a team of five to secure sponsorships and $100k+ in funding for Hack UMass, Pioneer Valley's largest hackathon.
- Organized financial details, allocated budget, and led public relations in conjunction with Major League Hacking.

Robotic Tea Maker |HackPrinceton 2018 | 2018

- Collaborated as a team of three Software Engineers while utilizing std-lib, and Flask libraries with a Raspberry Pi 3.
- Reverse-engineered a fish pump and connected it to an Amazon Alexa to make a bubble tea maker.

Backpack Abandonment Recognition |Trinity College Dublin| 2018

- Researched and developed a security-focused application that can detect abandoned backpacks; the application used OpenCV and Vision methodology, was coded in C++, and detects abandoned items using a static camera.

ADDITIONAL CREDENTIALS

TECHNICAL SKILLS	Microsoft Office Suite (Word, PowerPoint, Excel) / Java / Python / C / HTML5 / CSS / Git / Linux / Lua / OpenCV / Keras / Google Vision / C++ / Angular / Spring Boot / Apache / AWS / Tensorflow
HONORS & AWARDS	▪ Keynote Presenter to CIO – BNY Mellon ▪ Commonwealth Honors College Scholar with Distinction
PROFESSIONAL DEVELOPMENT	▪ Apache Kafka Bootcamp ▪ AngularJS & ReactJS Bootcamp
ORGANIZATIONS	▪ Rotary International ▪ Major League Hacking ▪ The Science Policy and Advocacy Initiative
VOLUNTEERISM	Rotary International / Japan Center for International Exchange / International Programs Office