

Jinen Setpal

DATA SCIENTIST AND PENETRATION TESTER

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Education

2019 – 2021	RN Podar School STUDENT · Mumbai 📍 Math, Physics, Chemistry with Elective Computer Science (CBSE), Class 12. Expected GPA - (–.-%)
2019	Jasudben ML School STUDENT · Mumbai 📍 Science Stream (ICSE), Class 10. GPA - (93.86%)

Work Experience

2020 – Present	Teachiq AB / exam.net SYSTEM DEVELOPER · Remote 📍 Developing Linux desktop applications for exam delivery service exam.net incorporating custom security implementations.
2020 – Present	NoFilter APP DEVELOPER · Mumbai 📍 Developing a platform for influencer-based data analytics and business automation.

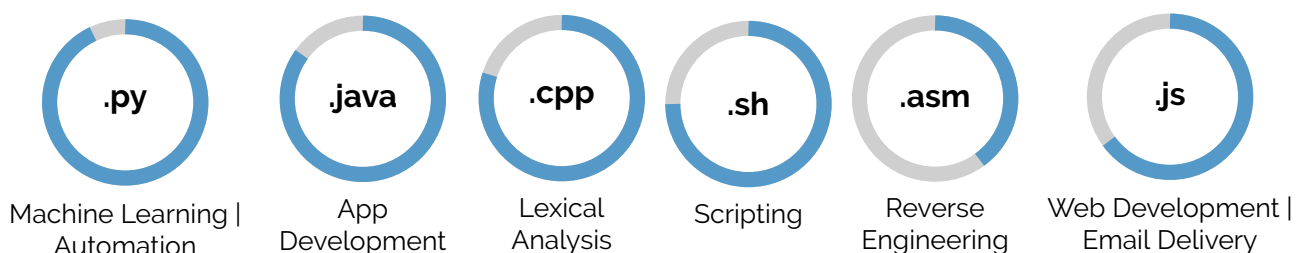
Publications

2019 – 2020	CutLang - A High Level Analysis Description Language [Forthcoming] CERN · Prof. Gökhan Ünel, et al. CutLang is a domain specific language developed using lexical parsers and grammatical analysers based on C/C++. The purpose of CutLang is to encapsulate functions from the ROOT framework and C++ into a singular environment with human readable code. As a result, physicists using .root files in order to analyse events or execute experiments they have in mind are not restricted by the programming prowess. It also serves for efficient comparisons due to the nature of the code. The custom .adl [Analysis Description Language] file format are deployed during execution runtime for event analysis. I built additional functions (keywords) available for use by the language. I have developed automation solutions for development testing with cloud-based build testing to determine code compatibility with provided test runs. GitHub Actions provides the computing platform to deploy the target workflow and is triggered on pull requests and commits to the repository. Through moderated code caching and case based email delivery, the debugging process is made streamlined. Work on this project has been presented at CERN Indico on 27th May, 2020. You can find the latest version [here] , with a newer version under peer review.
2020	ArchiMeDe: A New Model Architecture for Meme Detection EVALITA · Jinen Setpal, Gabriele Sarti ArchiMeDe is a system classifying image and metadata sets as memes (or not!) using multimodal neural networks. Using transfer learning, feedforward neural networks and ensemble learning, a working system has been built to participate in the 7th campaign of EVALITA. The system performed well, nearing precision of the best performing model but losing out on recall. The system documents have been submitted for review to the EVALITA chair via CEUR Workshop Proceedings , the code is hosted via github here , and the working documents can be viewed here .

Project Experience

2020 – Present	Using Deep Neural Networks for Real Time Image Segmentation INDEPENDENT · Employed SOTA techniques such as Axial-Deeplab in order develop image segmentation, object detection and motion tracking. The network is trained through traffic data derived from web scrapers. The eventual goal is to present a model capable of navigating through traffic which, post integration into mobile devices will allow visually impaired individuals navigate independently. [This project is in alpha stages of development].
2020	Exploiting Broken API Vulnerabilities Through Request Scripting INDEPENDENT · The robust web penetration testing framework Burp Suite has been employed in order to identify and report API vulnerabilities. Requests made to payment APIs for e-wallets were through careful analysis found to be modifiable. As a result the server handling e-wallet payments requests a wallet reduction equivalent to the arbitrary price set by the cracker, facilitating free purchases and jeopardizing company profits. A proof-of-concept of the above stated can be found [here] .
2020 – Present	Language Modelling Using Recurrent Neural Networks INDEPENDENT · Sequential Neural Networks were employed using Tensorflow's frameworks in order to model characters using text-based inputs and return synchronous understandable English. Multiple e-books are used in order to train the model. The model target is to train it through conversational dataset and use-cases of voice assistants.
2018 – 2020	Developing Bus Tracking Software for Student Security JML SCHOOL · Developed a fully functional application for tracking school buses for the benefit of the school's students. The app is used in order to ensure the location of buses. It allows estimation of location allowing students to time their commute to and from designated pick-up spots. The primary purpose of the project is to ensure student safety and security. The project is set to be deployed post the Novel Coronavirus (COVID-19) pandemic when buses resume function.
2019	Automation Engineering to Beat Web-based Typing Games RN PODAR SCHOOL · Manish Agarwal Custom scripts were developed using in conjunction with Firefox's web-driver in order to develop a bot that automatically logs in the website, initiates and competes in a game with no user input. The bot achieved a words-per-minute average of 310 over 87 runs. The software also incorporates OCR through PyTesseract in order to bypass the server's protection against bot attempts.
2019	Cloud Chamber Construction for Radon Measurement RN PODAR SCHOOL · Shyam Wuppuluri The experiment in question utilises the properties of isopropyl alcohol and a temperature gradient in a closed chamber in order to observe the tracks of certain particles. Also known as a Wilson cloud chamber, the device is a particle detector used for visualizing the path of ionizing radiation. Cosmic rays pass through the created chamber and leave observable wispy trails of ionized gas. Examination of the trails resulting in conclusions regarding the nature of the particles. The paper can be found [here]

Programming



Cybersecurity

- 2020 – Present **EC-Council Certified Security Analyst**
ECSA ·
The ECSA course is the second in a set of a three stage course for professional cybersecurity knowledge [CEH->ECSA->OSCP]. The course covers the OWASP Top 10 vulnerabilities that exist in the industry today. It covers topics crucial to participate in bug bounties, and CTF [Capture the Flag] Competitions
- 2019 **Certified Ethical Hacker**
CEH ·
The Certified Ethical Hacker is a beginner level course that describes the basics of a networking, introduces the individual to the fundamentals of cybersecurity. The user is introduced to Linux, and the corresponding framework providing tools for penetration testing.

Leadership

- 2020 – Present **Founder & CTO**
NECTER ·
Necter is an app development firm founded by 6 teenagers looking to deeply influence the market and drive fluid and efficient design. Ongoing projects include bus tracking solutions for adoption by schools across Mumbai, currently developed and maintained on a contractual basis.
- 2020 **Lead Organizer**
PROGRAMMING COMPETITION ·
Hosted [vim], a programming language. Students from Grade XI - Grade XII participated in this event. Participants were handed programming challenges to solve independently - the nature of the problems being unsolved to encourage self-driven problem solving.
- 2019 **Project Head**
NOFILTR INTERNSHIP ·
Project Head for an internship at NoFiltr - influencer marketing company. The team developed key performance indicators [KPI] for individual marketing teams. We used algorithmic based methodologies in order to ensure quantification of employee performance.
- 2019 **Captain**
ASIAN REGIONAL SPACE SETTLEMENT DESIGN COMPETITION ·
Grade 11 Students were tasked with developing a proposal for a space settlement based on competition specifications. I captained the team and were honorary guests to witness stages held at Delhi, India.
- 2019 **Head of Tech**
DHRISHTIKON ·
Headed all technological operations for an event held by the student body for teachers and parents. Tasks include AV editing and stage autonomy.

Skills

Frameworks	Tensorflow, ROOT, SPYDER, Node.js, Vue.js, Electron
Document Formatting	L ^A T _E X
Development Utilities	Pycharm, Android Studio, Git, Jupyter Notebook, Atom, MariaDB
Software Utilization	AR Object Modelling, Audio and Video Editing, Special Fx [Adobe Suite]

Achievements

- 2019 **Excellence in Computer Science**
AWARDEE · Jasudben ML School
Awarded certificate for distinguished performance in computer science with school rank #1 and personal initiative for tutoring weaker students.
- 2018 **Australian National Chemistry Quiz**
HIGH DISTINCTION · RACI Chem Ed Central
Awarded a certificate of high distinction for exceptional performance in the all-India held quiz for Chemistry knowledge and application.
- 2019 **Not A Hackathon**
WINNER · RN Podar School
Winner of the Not A Hackathon Coding competition - a utility-centric application was fully developed from start to finish in a competition lasting a time period of two days.
- 2019 **Shri J.D. Kathuria Prize for Excellence in Mathematics**
AWARDEE · Jasudben ML School
Awarded prize for distinguished performance in mathematics with school rank #1.
- 2019 **ASSET Talent Search**
DISTINGUISHED PERFORMANCE · Educational Initiatives, India
Certifications awarded for >95% percentile performance in ASSET quiz subjects on Math, Science and English.
- 2018 **Codewars - Founders Week**
WINNER · Jasudben ML School
Winner of Codewars - a programming competition on the Founders' Week 2019. Automation software was developed using Java.

References

- Shyam Wuppuluri** Research Associate
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- Prof. Gökhan Ünel** Particle Physicist
CERN, Geneva
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- Gabriele Sarti** NLP Research Intern & MSc Candidate
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