

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 - (96.20%) |
| 2017 – 2019 | Jasudben ML School
STUDENT · Mumbai 📍
Science Stream (ICSE), Class 10.
GPA - (93.86%) |

Work Experience

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|----------------|--|
| 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 | NoFiltr Social LLP
APP DEVELOPER · Mumbai 📍
Developing a platform for influencer-based data analytics and business automation. |

Publications

- | | |
|-------------|---|
| 2019 – 2020 | CutLang V2: towards a unified 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 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 contributed to the project additional functions (keywords) for use in the language. I developed cloud-based CI/CD solutions to determine code compatibility with using extensive 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 <i>8th Annual Conference on Large Hadron Collider Physics</i> on 27th May, 2020. |
| 2020 | ArchiMeDe @ DANKMEMES: A New Model Architecture for Meme Detection
EVALITA 2020 · Jinen Setpal, Gabriele Sarti
ArchiMeDe is a multmodal meme classifier system classifying image and metadata sets as memes (or not!) using multimodal system architecture. Using transfer learning, feed-forward neural networks and ensemble learning, the built system performed well, nearing precision of the best performing model but losing out on recall. Work on this project is peer-reviewed and presented at the <i>Final Workshop of the Seventh Evaluation Campaign of Natural Language Processing and Speech Tools for Italian</i> on 17th December, 2020.

Sponsors for EVALITA include CELI, the European Language Resources Association (ELRA), Google Research, BNOVA, and Amazon Science. The system codebase is maintained here . The paper is published with CEUR-WS here , with explanatory videos presented to the conference here . |

Project Experience

2020 – Present

Mobile Based Realtime Panoptic Segmentation

INDEPENDENT ·

Attempting to embed realtime panoptic segmentation into mobile devices. The eventual goal is to use the derived data to build a model capable of identifying a safe path that visually impaired individuals can use to navigate independently. A three-dimensional soundscape is a planned implementation to direct the user. !alpha!.

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

Data Science Intern

EXPRESS ANALYTICS ·

Heading a project working to develop deep learning based solutions to identify and maximize response to advertisement campaigns using browsing, purchasing activities & user demographics.

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

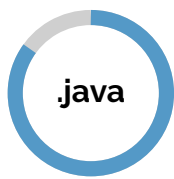
RN PODAR SCHOOL · Shyam Wuppuluri

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



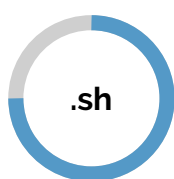
Machine Learning |
Automation



App
Development



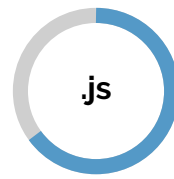
Lexical
Analysis



Scripting



Reverse
Engineering



Web Development |
Email Delivery

Cybersecurity

2020 **EC-Council Certified Security Analyst**

ECSA · Macksofy Technologies

The ECSA course is the second in a set of a three stage course for professional cybersecurity knowledge (ICEH->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 · Macksofy Technologies

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 **Lead Developer**

AATMANIRBHAR (INDEPENDENT) APP INNOVATION CHALLENGE ·

Headed a team of developers on an open sourced social media platform focused on privacy and security for the Indian Government's App Innovation Challenge. The app was built for Android and iOS, and presented to the judges in July 2020. More details on the platform are present [here](#).

2020 **Lead Organizer**

PROGRAMMING COMPETITION ·

Organized [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**

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 student-led play for teachers and parents. Using Raspberry Pi's, automated command execution to alter stage lights and backdrops across performances.

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
University of Trieste & SISSA, Italy
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- Aswathi Padmakumar** School Counselor
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- Manish Agarwal** Computer Science Teacher
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