

STACS MAGAZINE

DEPARTMENT OF CSE

KiTE



2018-2019

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Vision and Mission statements of the Institute

EN VISION ED FUTURE “MORE GENIUS PER GENIUS”

To be recognized as the #1 engineering institutions regionally and nationally by all stakeholders including employers, faculty and society



CORE MISSION QUESTION- HOW CAN WE MAXIMIZE LEARNER TRANSFORMATION IN 10,440 HOURS?

We are coresponsible for producing remarkable behavioral traits such as deep enquiry (self generated questions, curiosity, research), an intrinsic desire for uncomfortable struggle (for employable skills, specific interests, big ideas) and an inclusive mindset (real world projects, collaboration, compassion)

Vision and Mission statements of the Department of Computer Science and Engineering

Vision



To promote industry embedded education there by creating computer science Professionals with exceptional intellectual skills that has a transformative impact on the socieity.

Mission

- To inculcade a remarkable behavioral traits and industry embedded research, leading to face uncomfortable struggle
- To foster the spirit of deep enquiry and imagination among students by bringing the curiosity to come up with innovative ideas for well-being of the society
- To fasten with individuals and organizations for realizing supreme potential for solving real-world problems

Programme Educational Objective (PEO)

PEO1: To enable graduates to pursue higher education and research, or have a successful career in industries associated with Computer Science and Engineering, or as entrepreneurs.



PEO2: To ensure that graduates will have the ability and attitude to adapt to emerging technological changes.

PEO3: To attain professional skills by ensuring life-long learning with a sense of social values.

Programme Outcomes (POs)

At the time of graduation, the students of Computer Science and Engineering should have the

PO1 ENGINEERING KNOWLEDGE: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

PO2 PROBLEM ANALYSIS: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 DESIGN /DEVELOPMENT: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 CONDUCT INVESTIGATIONS OF COMPLEX PROBLEMS: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 MODERN TOOL USAGE: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 THE ENGINEER AND SOCIETY: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 ENVIRONMENT & SUSTAINABILITY: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 ETHICS: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 INDIVIDUAL AND TEAM WORK: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 COMMUNICATION: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 PROJECT MANAGEMENT AND FINANCE: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 LIFE LONG LEARNING: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

About The Department:

- Computer science is at the forefront of the digital revolution that continues to define the 21st century.
- It helped introduce innovations like the smartphone and the 'gig' economy. In future, computer scientists are expected to completely reshape the world we live in with technologies like Augmented Reality, the Internet of Things, and distributed ledgers like Blockchain.
- At KGiSL, CSE department is committed to develop young minds to make creative engineers in industries, business and to play a positive and useful role in social transformation.
- Our department offers its students the very best exposure in terms of technology, infrastructure and resources.
- The college lays great emphasis on Industry-Embedded quality education. Its unique learning approach is designed to contribute significantly to the growth and development of each and every student.
- CSE department has been in the forefront in recognizing the needs of the industry and integrating knowledge with professional inputs.
- The final goal is achieved through our unyielding efforts to enhance Quality in Industry Embedded Education, Research and Diversity in order to serve the society at large.

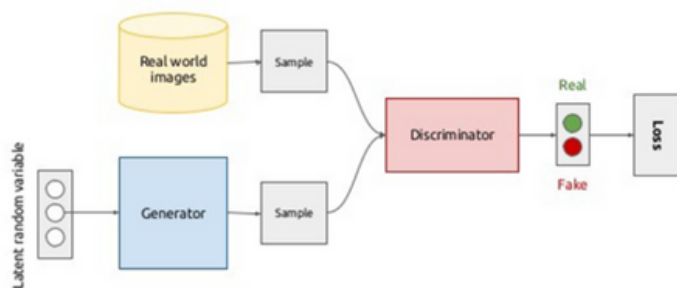
Articles

Generative Adversarial Networks

Sowmyanarayanan .R of 2nd year CSE-B

In 2014, Ian Goodfellow and his colleagues at the University of Montreal published a stunning paper introducing the world to GANs, or generative adversarial networks. Through an innovative combination of computational graphs and game theory they showed that, given enough modeling power, two models fighting against each other would be able to co-train through plain old backpropagation.

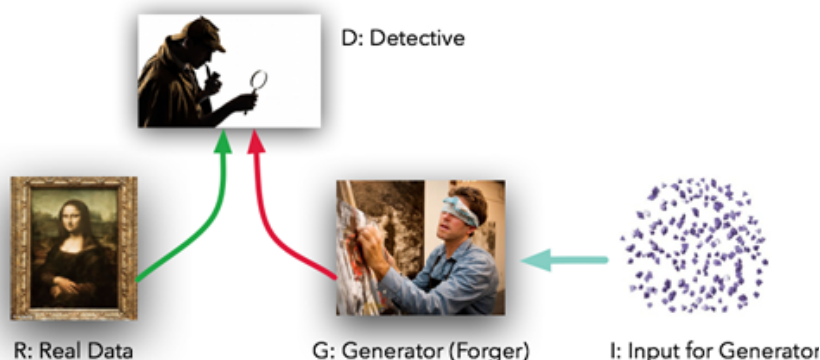
Generative adversarial networks (conceptual)



The models play two distinct (literally, adversarial) roles. Given some real data set R , G is the generator, trying to create fake data that looks just like the genuine data, while D is the discriminator, getting data from either the real set or G and labeling the difference

Goodfellow's metaphor (and a fine one it is) was that G was like a team of forgers trying to match real paintings with their output, while D was the team of detectives trying to tell the difference. (Except that in this case, the forgers G never get to see the original data — only the judgments of D . They're like blind forgers.

In practice, what Goodfellow had shown was that G would be able to perform a form of unsupervised learning on the original dataset, finding some way of representing that data in a (possibly) much lower-dimensional manner. And as Yann LeCun famously stated, unsupervised learning is the "cake" of true AI. Generative Adversarial Networks



In 2014, Ian Goodfellow and his colleagues at the University of Montreal published a stunning paper introducing the world to GANs, or generative adversarial networks.

Instagram Bot using Python

Solomon Raj A of 2nd year CSE-B



Today I'll be sharing step by step approach towards the same using basic Python Libraries , I'll be extending the same with analytical insights as well in the future.

Core functions Supported

- Multiple accounts login
- Searching all the accounts matching with any keyword ex- "Travel"
- Searching and opening multiple profiles
- Follow/Unfollow multiple handles in one shot
- Like/Unlike n number of posts of any given handle
- Extract followers from any given account
- Viewing stories on auto-mode and more

First of all we'll be importing basic python libraries along with Selenium which controls the browsers

```
from selenium import webdriver
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
import matplotlib.image as mpimg
```

#Search and open any profile

```
def searchAndOpenProfile(profileName):
    driver.find_element_by_xpath("//[@placeholder='Search']").clear()
    driver.find_element_by_xpath("//[@placeholder='Search']").send_keys(profileName)
    time.sleep(3)
    screenCap()
    ele=driver.find_element_by_xpath("//[@class='fuqBx']")
    results=ele.find_elements_by_tag_name("a")
    for i in results:
        if "#" not in i.text:
            i.click()
            print(i.text.partition("\n")[0]+" Profile Opened")
            plt.show()
            break;
```

Web Apps With JavaScript and Django

Ajeeth .B of 2nd year CSE-A

Power of Javascript



Serverside Rendering:

The ability of Javascript to run on the server using Node.js is consolidating it into single code bases. It reduces complexity for large scale applications and it has the benefit of allowing more complex architectures to be handled more easily.

Native Cross Platform Support: Javascript has matured enough to have for native cross platform across IOS, Android and even Windows/Mac Desktop.

Reuseability: Javascript is one of the top programming languages with reuseability ability. Javascript codes are always reusable and that's one of the features that backed jQuery and its plugins.

Scalability: Javascript single threaded nature enforces a standard on software design which ends up improving performance and scalability in many cases.

Power of Python/Django

With the release of Django 2.0, django now has a lot of powerful features included.



Django is a high-level, MVC-style, open-source collection of libraries written in Python encouraging rapid development and pragmatic, clean design of web apps

A web application framework is a tool all web applications need to quickly get things done. The aim here is to let developers to focus on the parts of their application that are new and unique to their project, instead of implementing the same solutions over and over again.

Notable features of Django:

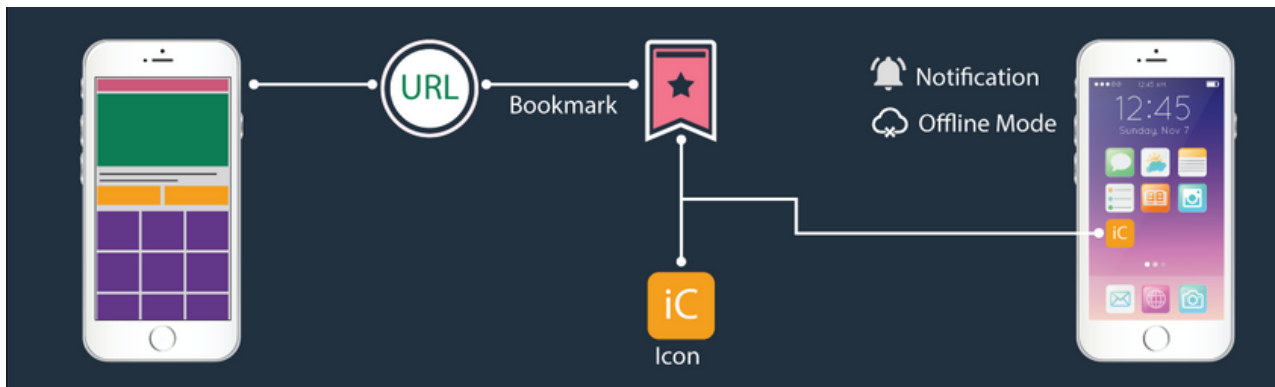
Built-in Template System: This is one of the great features about Django, it supports a template system and you can even extend it.

Security: Django is highly secured, if you don't know that. The web framework comes with default protection against XSS attacks, CSRF attacks, SQL injections, clickjacking, user management, cookies, email header injection, cryptography, directory traversal etc.

Easy Database Migrations: With Django's migrations, you can easily change a database schema in quick time.

Progressive Web Apps (PWA)

Progressive Web Apps as its name implies, is a progressive web application. It is an app that works for every user no matter what browser or mobile device they are using. They are responsive and they feel like an app when used on a mobile or tablet device.



Key features of PWA:

Fast — Respond quickly to user interactions with silky smooth animations and no janky scrolling. Very fast due to the caching technology implemented.

Reliable — Load instantly and never show the downasaur, even in uncertain network conditions. That means it can even work offline with ditch.

Engaging — Feel like a natural app on the device, with an immersive user experience. This gives the experience of normal mobile apps.

PWA

Top Tutorials To Learn Hacking For Beginners

Nitheeswaran .M of 2nd year CSE-B



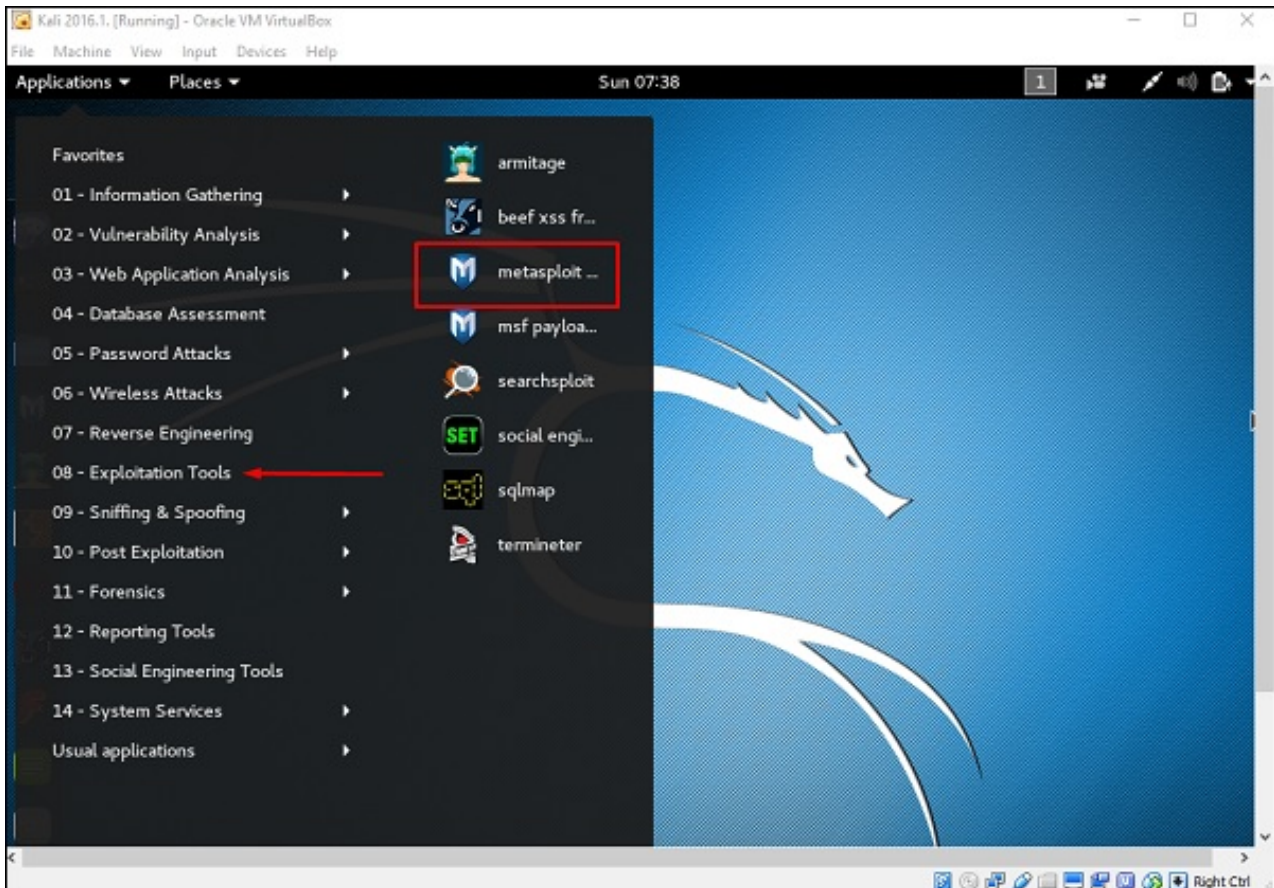
Kali Linux is the latest Linux distribution from Offensive Security, custom-built for the distinct purposes of performing network security audits and forensic investigations. Kali comes fully loaded with hundreds of integrated tools to perform every aspect of a penetration test.

- Malware Threats
- Trojan Concepts
- Malware Reverse Engineering & Detection
- Penetration Testing
- Session Hijacking Concepts
- Webserver Attacks & Concepts
- Hacking Web Applications
- Hacking Wireless Networks



Metasploit

First, open the Metasploit Console in Kali. Then, go to Applications → Exploitation Tools → Metasploit.



It has a good command called **“Search”** which you can use to find what you want as shown in the following screenshot.

For example, I want to find exploits related to Microsoft and the command can be

msf >search name:Microsoft type:exploit.

```
msf > msfupdate
[*] exec: msfupdate
[*]
[*] Attempting to update the Metasploit Framework...
[*]
[*] Checking for updates via the APT repository
[*] Note: expect weekly(ish) updates using this method
[*] Updating to version 4.12.15-0kali2
Reading package lists...
Building dependency tree...
Reading state information...
The following additional packages will be installed:
  libruby2.3 ruby-did-you-mean ruby-net-telnet
```

NVIDIA Jetson Nano kit

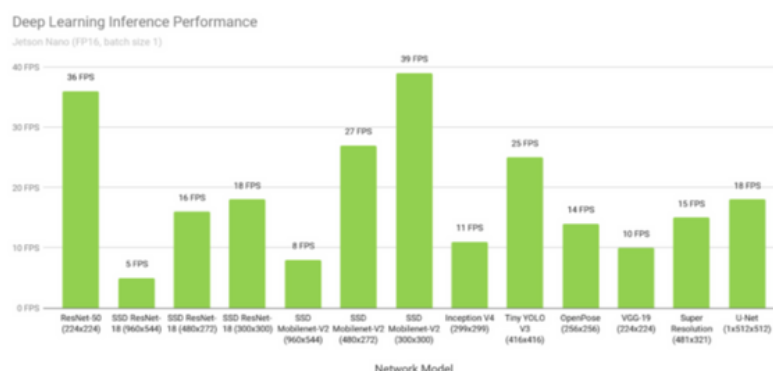
Swarna Vikram .M of 2nd year CSE-B

Nvidia Jetson is a series of embedded computing boards from Nvidia. The Jetson TK1, TX1 and TX2 models all carry a Tegra processor (or SoC) from Nvidia that integrates an ARM architecture central processing unit (CPU). Jetson is a low-power system and is designed for accelerating machine learning applications.



Nvidia shipped the Nvidia Jetson TK1 development board containing a Tegra K1 SoC in the T124 variant and running Ubuntu Linux.

Big Compute Performance



Jetson Nano delivers 472 GFLOPs for running modern AI algorithms fast. It runs multiple neural networks in parallel and processes several high-resolution sensors simultaneously,

