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Lucknow Chapter

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Webinar on From Emails to Metaverse - Evolution of Social Interactions in Digital World organized by Computer Society of India Lucknow Chapter & Shri Ram Swaroop College of Engineering and Management on 11th January 2022

Reported by : Mr. Harish Chandra Gupta & Mr. Vinay Kumar Johri

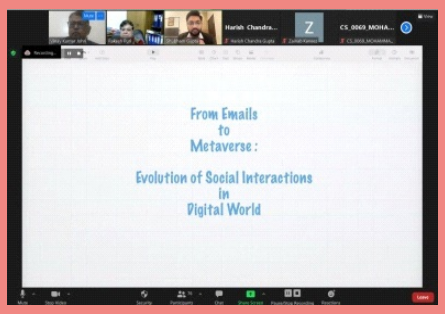
A Webinar on From Emails to Metaverse – Evolution of Social Interactions in Digital World was organized by Computer Society of India, Lucknow Chapter and Shri Ram Swaroop College of Engineering and Management on 11th January 2022. The Guest Speaker of the webinar was Er. Shubham Gupta, IIT BHU (CSE), Ex- Goldman Sachs, Founder- Gurukul Bytes.

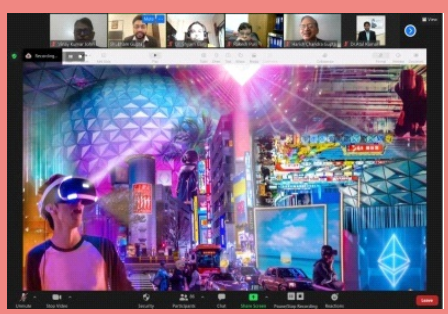
Mr. Harish Chandra Gupta, Chairman CSI Lucknow Chapter briefed about Computer Society of India and the benefits available to Students and others by joining as a Member of CSI. Er. Kaneez Zainab from SRMCEM moderated the Webinar. She also introduced the Guest Speaker to the Audience.

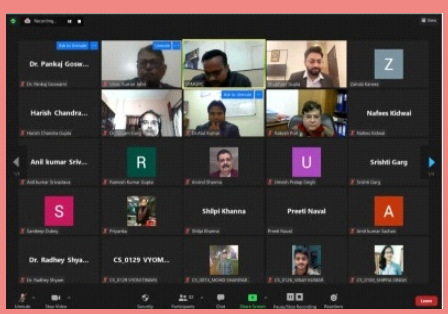
Er. Shubham Gupta, the Guest Speaker covered various topics ranging from Rise of Social Media Platforms, Experience in Real World and sharing in Digital World, 2020 Pandemic triggered limitations in having Real World Experiences and forced the world to work differently, What if all of us can together experience within the Virtual World where the concept of Physical Distances fades away,Key Events Post 2020 Pandemic, Mixed Reality where experience of Meet JioGlass, Power of Mixed Reality was shared,

Learning Embibe (Learn Better with Interactive 3D content), Reliance Digital, JioMeet, Is Metaverse the Future?, A Parallel Economy running inside a Virtual World, 5 Senses, VR/AR/MR Headsets, Haptic Gloves, Haptic Body Suit, Human Digital-Avatar, Disruption through Metverse? etc. He also addressed all the queries raised by the participants to their full satisfaction.

Dr. Atul Kumar, HOD-CSE, SRMCEM, Lucknow delivered the Vote of Thanks to the Guest Speaker, CSI Lucknow Chapter and the audience present in the Webinar.







Webinar on Artificial Intelligence- Powering Your Enterprise with Low Code/No Code AI Platforms organized by Computer Society of India Lucknow Chapter on 12th March 2022

Reported by : Mr. Harish Chandra Gupta & Mr. Vinay Kumar Johri

A Webinar on Artificial Intelligence- Powering Your Enterprise with Low Code/No Code AI Platforms was organized by Computer Society of India, Lucknow Chapter on 12th March 2022. The Guest Speakers of the webinar were Mr. Sarthak Srivastava, Founder & CEO, CODEBUGGED Organization Private Limited, Lucknow and Miss Sonali, Conversational AI Lead, CODEBUGGED Organization Private Limited, Lucknow.

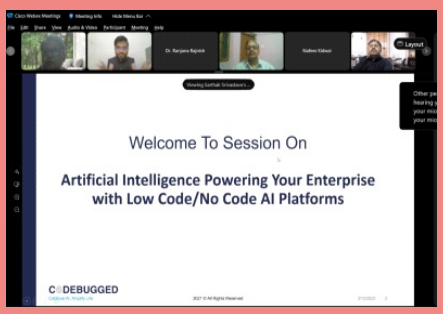
Mr. Harish Chandra Gupta, Chairman CSI Lucknow Chapter welcomed the Guest Speakers and the participants present in the Webinar. Dr. Ranjana Rajnish moderated the Webinar.

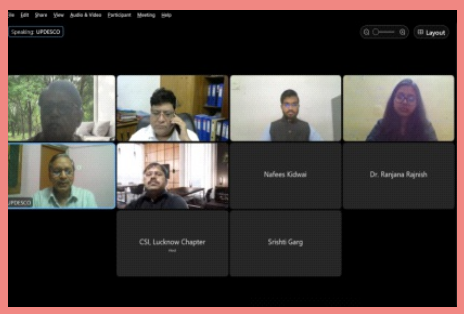
Mr. Sarthak Srivastava talked about the problems Implementing AI in Enterprises and solutions designed by Codebugged as Vision AI (Ikshana) and Conversational AI (SWAR) in the Enterprises without any coding expertise. He also talked about Market Validation in AI Adoption and AI Market, Codebugged's Value proposition, Global AI Market Size, Ikshana in detail and Video Demo, Market Adaption, Competitive Advantage over Products by Codebugged as compared to products by other companies etc. He also addressed all queries raised by the participants.

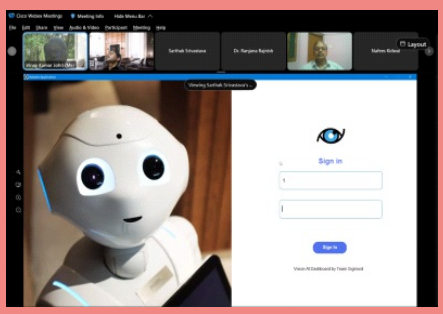
Ms. Sonali covered SWAR AI (Smart Wise Automatic Reply) – an NLP/NLU Conversational AI platform which helps to deploy Chatbots, CRMs, Support Desk and other AI Powered Applications to enhance Enterprise Conversations, is Mission Vision and Goal, How it differs from other Applications?, How does it work?. She also explained about Use Cases – Industries and Channel Examples, Industry Issues and Mitigation and its working in detail. She also explained Helper4U. She also addressed all the queries raised by the participants.

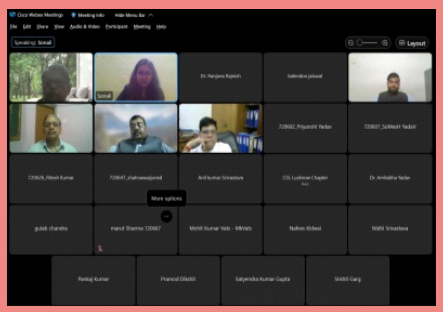
Mr. Anil Kumar Srivastava, Vice-Chairman CSI Lucknow Chapter delivered the Vote of Thanks to the Guest Speakers, Management Committee and the audience present in the Webinar.

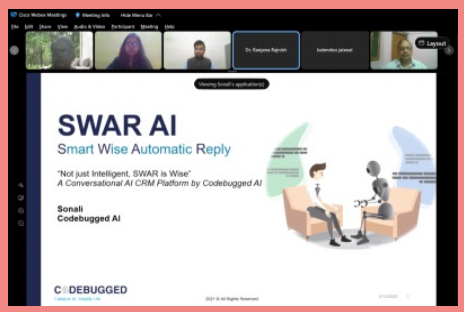
Dr. Ranjana Rajnish, Member Management Committee was the Moderator of the Webinar.

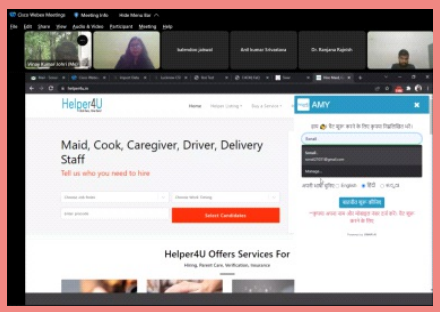












34th Annual General Meeting of Computer Society of India Lucknow Chapter organized by the Chapter on 26th March 2022 at Hotel Golden Orchid, Nirala Nagar, Lucknow

Reported by : Ms. Shivanshi Puri, Mr. Vidith Johri & Mr. Ishaan Puri

34th Annual General Meeting of Computer Society of India Lucknow Chapter was organized by the Chapter at Hotel Golden Orchid, Nirala Nagar, Lucknow on 26th March 2022.

Ms. Kamakshi Puri, one of youngest CSI Member of the Chapter successfully anchored the whole event. She invited the Chairman to start the proceedings.

Mr. Harish Chandra Gupta, Chairman addressed all the CSI Members who were present in the AGM. Mr. Vinay Kumar Johri, Hon. Secretary presented the Minutes of 33rd Annual General Meeting which was held on 08th November 2020 through Online Mode. After this presentation, Mr. Harish Chandra Gupta, on behalf of Mr. Nafisul Hasan Kidwai Hon. Treasurer, presented the Accounts for F.Y. 2019-20 & F.Y. 2020-21. Mr. Vinay Kumar Johri, Hon, Secretary presented the Activities organized by the Chapter starting from 01st November 2020 till 25th March 2022. Mr. Harish Chandra Gupta, Chairman introduced to the House Newly Elected Management Committee & Nomination Committee for 2022-2023. Vote of Thanks were delievered by Mr. Anil Kumar Srivastava, Vice-Chairman of the Chapter. The AGM was concluded followed by Dinner.






Students Corner

android

Android Operating System

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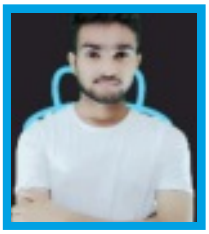


Name- Jamsher Shekh
Email- jamshershekh89@gmail.com
Affiliation- Babu Banarasi Das Institute of Technology and Management

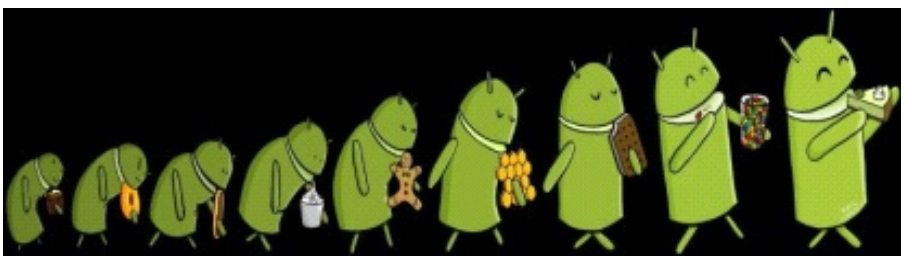
Introduction

Android is a software platform and operating system for mobile devices, based on the Linux kernel and developed by Google and later the Open Handset Alliance. It was unveiled in November 2007, with the first commercial Android device launched in September 2008.

It is free and open source software. About 70 % of Android smartphones run Google's ecosystem, competing Android ecosystems and forks include Fire OS (developed by Amazon) or Lineage OS.

Version History

Android is updating day by day since its release. These updates to the base operating system mainly focusing on fixing bugs as well as adding new features to provide more comfortable environment. The most recent released versions of Android are:



Evolution of Android OS

Android versions 1.0 to 1.1: The early days

Android made its official public debut in 23 September, 2008 with Android 1.0. Things were pretty basic back then, but the software did include a suite of early Google apps like Gmail, Maps, Calendar, and YouTube.

Android version 2.2: Froyo

Froyo did deliver some important front-facing features, though, including the addition of the now-standard dock at the bottom of the home screen as well as the first incarnation of Voice Actions.

Android versions 4.1 to 4.3: Jelly Bean

Jelly Bean releases took ICS's fresh foundation and made meaningful strides in fine-tuning and building upon it. The releases added plenty of poise and polish into the operating system and went a long way in making Android more inviting for the average user.

Android version 4.4: KitKat

Late-2013's KitKat release marked the end of Android's dark era, as the blacks of Gingerbread and the blues of Honeycomb finally made their way out of the operating system. Lighter backgrounds and more neutral highlights took their places, with a transparent status bar and white icons giving the OS a more contemporary appearance.

Android versions 5.0 and 5.1: Lollipop

Google essentially reinvented Android — again — with its Android 5.0 Lollipop release in the fall of 2014. Lollipop launched the still-present-today Material Design standard, which brought a whole new look that extended across all of Android, its apps and even other Google products.

Android version 6.0: Marshmallow

In the grand scheme of things, 2015's Marshmallow was a fairly minor Android release one that seemed more like a 0.1-level update than anything deserving of a full number bump. But it started the trend of Google releasing one major Android version per year and that version always receiving its own whole number.

Android version 11

Android 11, launched at the start of September 2020, is a pretty substantial Android update both under the hood and on the surface. The version's most significant changes revolve around privacy: The update builds upon the expanded permissions system introduced in Android 10 and adds in the ability for users to grant apps certain permissions — those related to location access, camera access, and microphone access — only on a limited, single-use basis.

ANDROID SECURITY

A. Secure Sockets Layer (SSL)

The Secure Sockets Layer (SSL) and its successor, Trans-port Layer Security (TLS), are cryptographic protocols that were introduced to protect network communication from eavesdropping and tampering. To establish a secure connection, a client must securely gain access to the public key of the server. In most client/server setups, the server obtains an X.509 certificate that contains the server's public key and is signed by a Certificate Authority (CA).

B. Android Security

The open nature of Android and its large user base have made it an attractive and profitable platform to attack. Common exploits and tool kits on the OS can be utilized across a wide number of devices, meaning that attackers can perform exploits en masse and re-use attack vectors. Google did take measures in the development of the Android kernel to build security measures in; the OS is sandboxed, preventing malicious processes from crossing between applications. Whilst this attempt to eliminate the concept of infection is admirable in some regards, it fails to address the issue of infection altogether.

Features of Android Operating System

1) Storage: SQLite, a lightweight relational database, is used for data storage purposes.

2) Connectivity: Android supports connectivity technologies including GSM EDGE, IDEN, CDMA, EVDO, UMTS, Bluetooth, WI-Fi, LTE, NFC and WI MAX.

3)Messaging: SMS and MMS are available forms of messaging, including threaded text messaging and Android Cloud to Device Messaging (C2DM) and now enhanced version of C2DM, Android Google Cloud Messaging (GCM) is also a part of Android Push Messaging service.

CONCLUSION

I've learned through my research that Android is a much more diverse operating system than iOS and Windows Phone Mobile. Android has grown rapidly becoming the most used smartphone operating system in the world. It's because Android doesn't release 1 phone from 1 company with 1 new OS every year, but countless phones from numerous companies, adding their own twist, throughout the year, developing gradually day-by-day. I am not one to say that Android is better or worse than one OS, but is unique and incomparable to other mobile operating systems.

References

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THE AIMS OF MACHINE TRANSLATION

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"Translation is a journey over a sea from one shore to the other."

- Amara Lakhous

INTRODUCTION

Machine Translation (MT) is a part of Computational Linguistic that investigates on the utilization of program to translate text starting with one common language then onto the next. It essentially suggests to normal language understanding. It has pulled in the consideration of specialists over a period of several decades. This idea has roped in the normal dialects from over the globe, and is viewed as the most challenging task in Natural Language Processing. The thought in Machine Translation is to connect source and target dialects and to give precise translation. This helps in providing a gateway for accessing each other's culture and literature.

Machine Translation is the name given to an area of computer science that manages translation of text or speech from one language to other utilizing computer software. Its essential point is to make a translation from source language to target language attempting to dodge ambiguities, oddities, and different complexities for additional refinement. In present situation, machine translation gives a restricted extent of translation, i.e., translation for less normalized text and with restricted scope. The quality of the output can be expanded by keeping the ambiguity low i.e., **"quality is inversely proportional to ambiguity".**

MACHINE TRANSLATION AND KNOWLEDGE

The information of source just as target language is significant in machine translation so that sensible input can be trailed by sensible yield. While discussing machine translation, essentially there are five kinds of knowledge that are contemplated, given below:

- **Phonological Knowledge**
- **Orthography Knowledge**
- **Morphological Knowledge**
- **Syntactic Knowledge**
- **Semantic Knowledge**

Phonological Knowledge

It is identified with information on phonemes of a language. It permits working out the imaginable way to express words. It expresses that words are produced using arrangements of sound. It is identified with function, behaviour and organization of sound. It likewise characterizes the way sound functions in a given language. In Sanskrit language arrangement of characters depend on phonemes. The sound of characters helps in separating from each other.

Orthography Knowledge

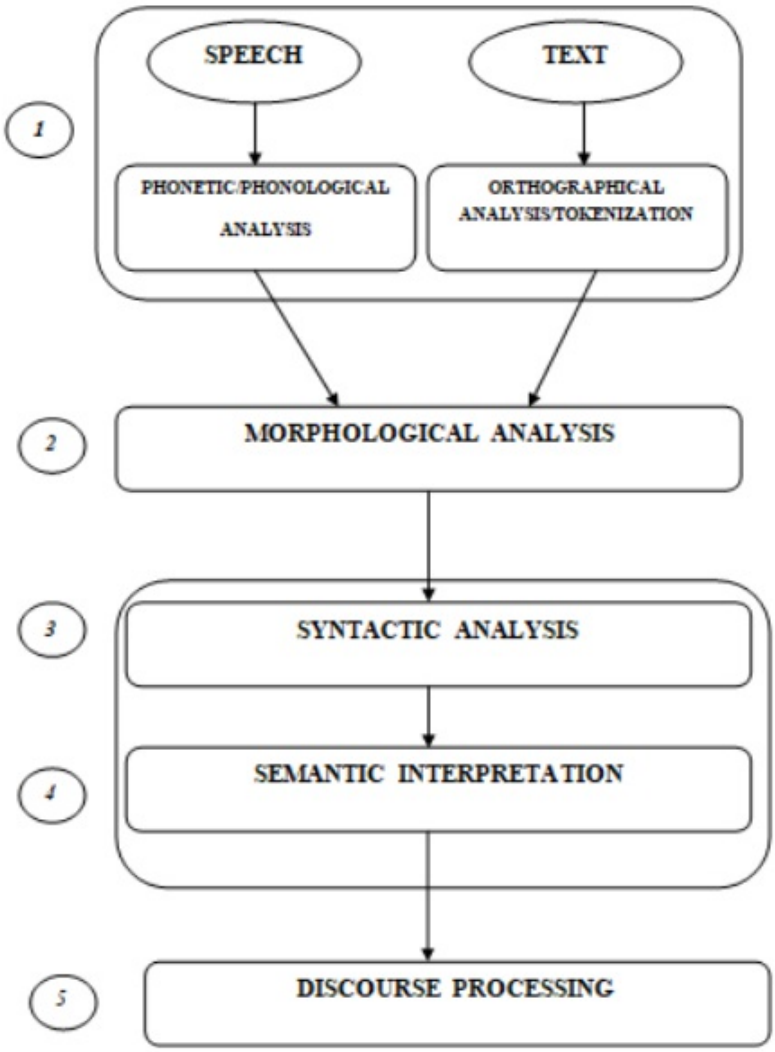
This science is identified with standard approach to compose a language, i.e., the content of the language and the punctuation marks are utilized. It manages composed texts and knowledge about spelling, i.e., the assortments of letters and spelling designs inside words. It requires visual recognition. It likewise manages symbols utilized in the language and characterizes rules on use of those symbols in the language.

Morphological Knowledge

This science manages identification, analysis and examination and depiction of structure of words which incorporate grammatical features (part of speech), prefix, postfix and word requests to pass on significance. Here, we likewise investigate connection among words like, boy and boys. It is information about how words can be built, e.g., research is and so on.

Syntactic Knowledge

It is information about how sentences and phrases (expressions) can be shaped utilizing words, i.e., words are joined to make linguistically correct sentences. It investigates the standards for development of sentences, i.e., the organizing of expressions or sentences. Essentially all the dialects on the planet are administered by the syntax. The language structure helps in passing on significant data about a sentence or expression. It likewise gives a discipline to make a sentence to communicate feeling or emotions.



Semantic Knowledge

Semantic information manages the significance of words, expressions and connection between the importance of an expression and its component words. Each language has a semantic pool which assists with passing on the importance and mood of the words and expressions.

Tokenization

One of the essential content handling steps is tokenization, the separating of crude content into words. For dialects that utilize the Latin letter set, this is primarily an issue of separating accentuation. While tokenizing text for machine translation, the fundamental core value is that we need to decrease text to an arrangement of tokens from a little stock. We would prefer not to learn various translations for house, contingent upon whether it is trailed by a comma (house,), encompassed by cites ("house"), etc.

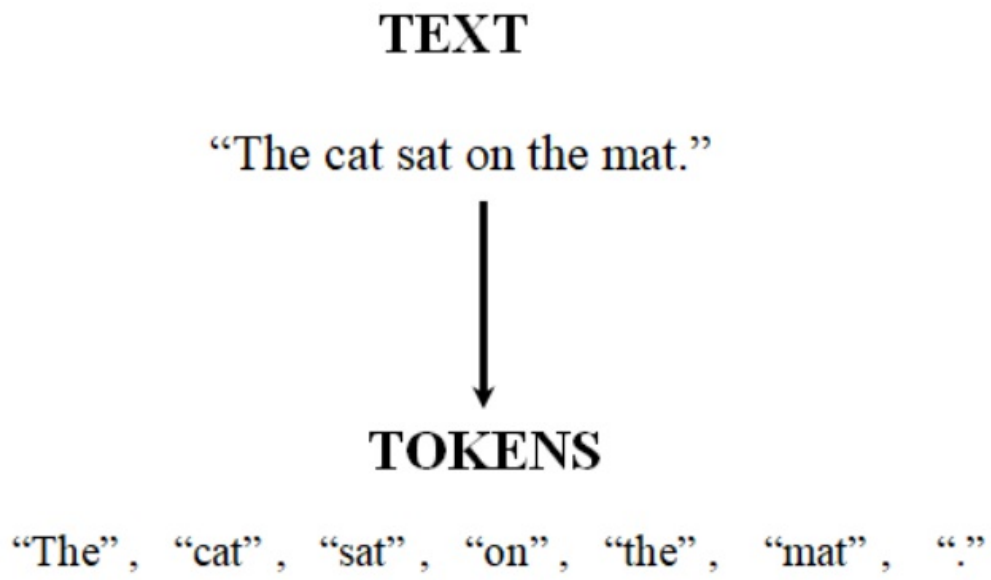


FIGURE 2: THE IDEA OF TOKENIZATION

At the other end of the translation processing pipeline opposite, we might want to give clients text in its regular structure, so we need to detokenize it to re-attach punctuation, and fix all other tokenization steps.

THE AIMS OF MACHINE TRANSLATION

Most translation on the planet isn't of texts which have high scholarly and cultural status. The incredible and majority of professional translators are utilized to fulfil the tremendous and developing interest for translations of scientific and technical documents, commercial and business transactions, administrative memoranda, lawful documentation, guidance manuals, rural and medical text books, industrial patents, publicity pamphlets, newspaper reports, and so on. A portion of this work is challenging and troublesome. However, quite a bit of it is

monotonous and dull, while simultaneously requiring exactness and consistency.

The interest for such translations is expanding at a rate far beyond the capacity of the translation profession. The assistance of a computer has clear and prompt attractions. The practical convenience of a MT framework is determined eventually by the quality of its output. In any case, what considers as a 'good' translation, regardless of whether created by human or machine is a very troublesome concept to characterize precisely. Much relies upon the specific circumstances where it is made and the specific beneficiary for whom it is intended.

Fidelity, accuracy, intelligibility, appropriate style are altogether measures which can be applied, however they stay subjective judgements. What makes a difference practically speaking, as far as MT, is concerned, is what amount must be changed so as to bring yield up to a standard satisfactory to a translator or reader. With such a slippery concept as translation, researchers and developers of MT frameworks ultimately aspire just to creating translations which are 'valuable' in specific circumstances — which obliges them to characterize clear research objectives— or, alternatively, they look for appropriate applications of the 'translations' which in fact they can deliver.

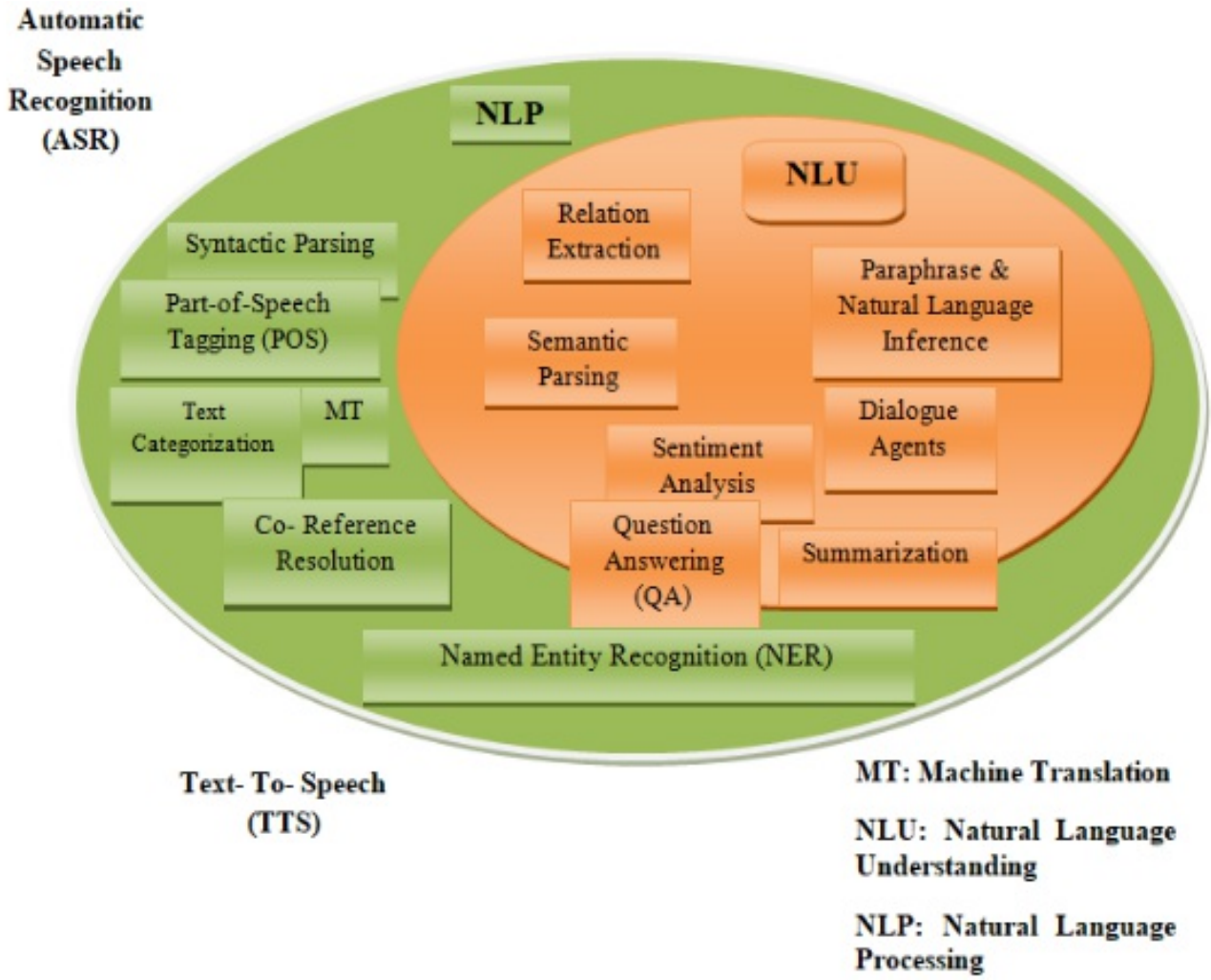


FIGURE 3: NLU vs. NLP vs. ASR WITH MACHINE TRANSLATION

Nevertheless, there remains the higher ideal of equalling the best human translation.

MT is essential for a more extensive sphere of 'pure research' in computer-based natural language processing in Computational Linguistics and Artificial Intelligence, which investigate the fundamental mechanisms of language and mind modelling and simulation in computer programs.

Research on MT is firmly identified with these endeavours, adopting and applying both hypothetical viewpoints and operational methods to translation processes, and thus offering insights and solutions from its specific issues.

Also, MT can give a 'test-bed' for a larger scale for hypothesis and strategies created by small-scale experiments in computational linguistics and artificial intelligence.

The significant snags to deciphering by computer are, as they have consistently been, not computational but rather etymological. They are the issues of lexical ambiguity, syntactic complexity (unpredictability), vocabulary differences between dialects, elliptical and 'ungrammatical' constructions, in short, extricating the 'meaning' of sentences and texts from analysis of written signs and creating sentences and texts in another arrangement of linguistic symbols with an equivalent importance.

Consequently, MT ought to depend vigorously on progresses in etymological research, especially those branches exhibiting high degrees of formalization, and in reality it has and will keep on doing the same. In any case, MT cannot apply etymological hypothesis legitimately. Linguists are worried about clarifications of the underlying 'mechanisms' of language creation and comprehension; they focus on significant highlights and don't endeavour to depict or clarify everything.

MT frameworks, paradoxically, must deal with genuine writings or texts. They should confront against the full range of linguistic marvels, the complexities of terminology, incorrect spellings, neologisms, aspects of 'performance' which are not generally the concern of abstract theoretical linguistics.

To sum things up, MT isn't in itself an autonomous field of 'pure' research. It takes from linguistics, software engineering, artificial intelligence, translation hypothesis, any thoughts, strategies and techniques which may serve the advancement of improved frameworks. It is basically 'applied' research, however a field which nevertheless has developed a substantial body of strategies and ideas which can, thus, be applied in different territories of computer-based language processing.

AUTHOR'S PROFILE

Srishti Garg has pursued M.Tech. (Software Engineering) from the Department of Information Technology, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh in the year 2020. She received her Bachelor Degree in Computer Science and Engineering from Uttar Pradesh Technical University, Lucknow, Uttar Pradesh, India in the year 2014. Her research areas include Cloud Computing, Machine Translation, Natural Language Processing and Machine Learning.

MANAGEMENT COMMITTEE 2022-2023

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This Marker is the beginning of the Next Newsletter, rather than the end.