

Guest Lecture on Neuromorphic Computing

Organized by MITS -Dept. of CSE
5th August 2021

00:05

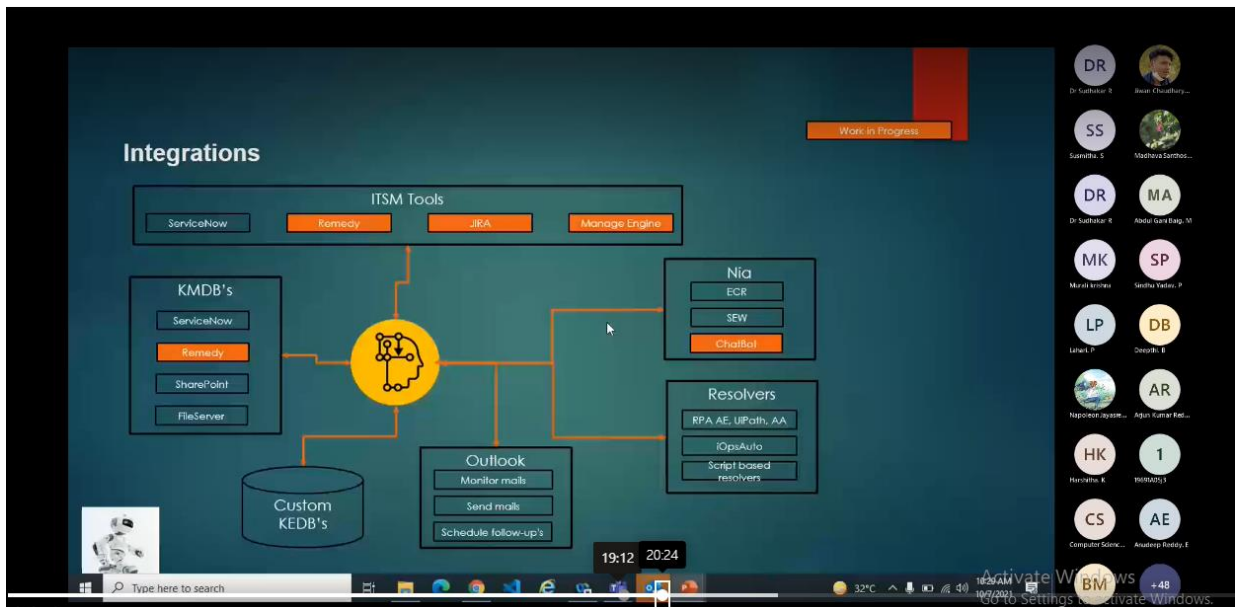
Ways to Adapt

- ▶ Self learning
- ▶ Logical Thinking
- ▶ Positive Attitude
- ▶ Quick Learner
- ▶ Flexible to work in any environment

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Submitted by: Dr. V.Arun Professor, CSE, MITS.

The CSE Department organized a Guest Lecture on “**Neuromorphic computing**”, delivered by Mr S.JOTHEESHWARAN, **Assitant Professor department of CSE**, Paavai Engineering Namakkal on 05-08-2021.

HoD CSE: The Professor and the Head, Department of Computer Science and Engineering, addressed about how Programming Languages is important in our software development. Then the session was handed over to Dr Rangasamy Department of CSE Selvam College of Rechnology.

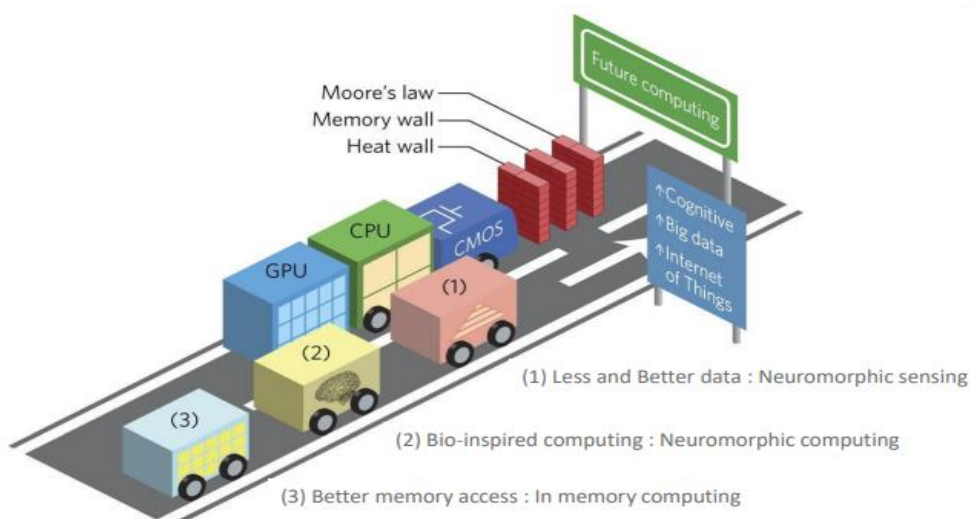
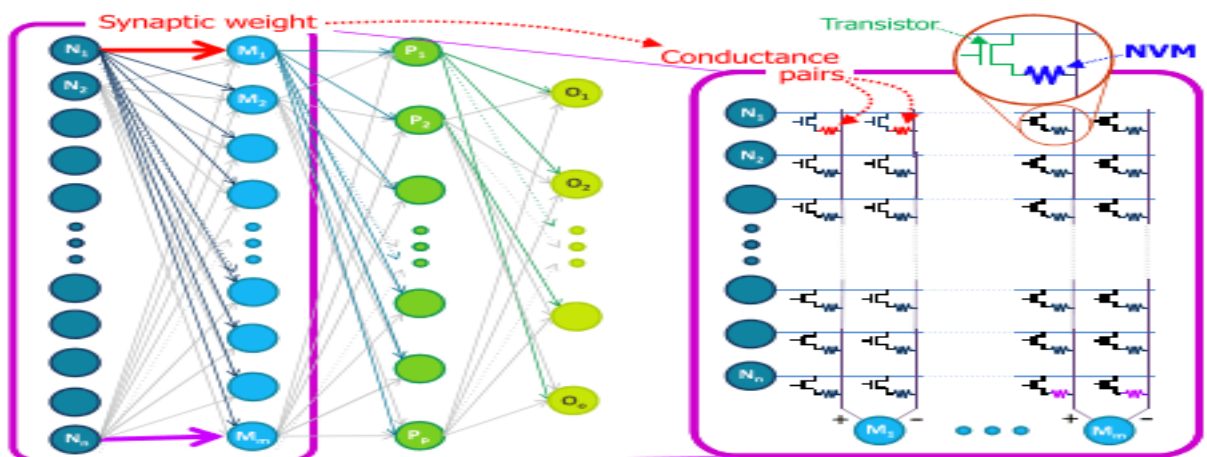
The speaker discussed about Neuromorphic computing Life Cycle in detail. Neuromorphic is the process of finding bugs in the software and making the software bug free. This Neuromorphic mainly improves the quality of software, reliability and performance of the system. Such a

continuous Neuromorphic computing to enhance the quality of software requires a lot of patience and knowledge in debugging the program to understand where is the possibility of encountering bugs. Tester may not require how to program, but always requires the knowledge of debugging the program. Such a testing must be actually included in the early stages of the SDLC phases so that the fixing of bugs may get lower and even bugs can be identified and rectified easily than identifying at the end. Around 68 Students has participated in the online programme.

The speaker spoke about various types of Neuromorphic computing and importance of each and every type in a brief manner like Manual types.

- Neuromorphic is a rapidly-emerging technology that harnesses the laws of quantum mechanics to solve problems too complex for classical computers.
- Neuromorphic opens the door potentially solving very large and complex computational problems that are basically impossible to solve on traditional computers.
- Taking large manufacturing data sets on operational failures and translating them to combinatoric challenges .

The students expressed that the technical session was very purposeful and helped them in knowing in depth about Quantum computing.



Traditional neural network and machine learning computation are well suited for existing algorithms. It is typically focused on providing either fast computation *or* low power, often achieving one at the expense of the other.

Neuromorphic systems on the other hand, achieve both fast computation *and* low power consumption. They are also:

- massively parallel, meaning they can handle many tasks at once;
- event-driven, meaning they respond to events based on variable environmental conditions and only the parts of the computer in use require power;
- high in adaptability and plasticity, meaning they're very flexible;
- able to generalize; and
- strong and fault-tolerant, meaning produce results after components have failed.