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Einstein's Corner



Inspirational quote

No problem can be solved from the same level of consciousness that created it.

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In This Issue

- Message from the head
- Students Corner
- Alumni Focus
- Research Updates
- Technical Events
- Faculty Updates

**VISION**  
"To Produce Critical thinkers of Innovative Technology"

**MISSION**  
"To provide an excellent learning environment across the computer science discipline to inculcate professional behavior, strong ethical values, innovative research capabilities and leadership abilities which enable them to become successful entrepreneurs in this globalized world"

# THE DEPARTMENT

## HISTORY OF DEPARTMENT

The Computer Science and Engineering Department was established in the year 1999 under GGSIP University with an intake of 60 students. The intake was subsequently increased to 120 and at present has intake of 240 students.

Department is committed to achieve excellence in technical education & research and assesses the success of its programs using the highest standards of quality. A group of well qualified, experienced and highly motivated faculty is engaged in providing quality education to the future computer engineer and prepare the students in wider field of Computer Engineering to take up challenging jobs in the area of Systems Software Development, Application Software Development and Computer Networking. Since its inception, the department has been the first choice of the students seeking admission in the private Engineering Institutes under GGSIP University. Graduates from the department are heavily recruited by both academia and industry, and ex-students of the department occupy top positions in both academia and industry all over the world.



## Message from the head

Department of Computer Science & Engineering commits to work towards developing Engineers with a rich blend of competent, technical, managerial and social skills and contribute to nation building. Department places emphasis on all the important aspects of computers such as Computer Networks, Mobile Communication, Algorithm Design, Operating System, Advance Database Systems, Theory of Computation, Computer Graphics and many more. Department takes the initiative to improve the soft skills, analytical capabilities and verbal communication of the students so that they can face the competition in the corporate world confidently. To meet the objectives, department pays special emphasis on teaching and hands on practical work. Students exhibit their innovative ideas, skills and potentials as final year projects and have won many awards at University level. The excellent infrastructure, experienced team of faculty dedicates to strengthen effective teaching learning process ensuring quality education.

We believe that this approach to teaching-learning, coupled with practical experience gained during Industrial Training in reputed organizations, equips our students to handle the challenges posed by the IT industry. Students of Computer Science and Engineering are placed with top IT companies. We as a team resolve to take the Department to heights of success and glory and prepare for the forthcoming challenges.

**Dr. Namita Gupta**  
HOD CSE

### DEPARTMENT INTAKE

FIRST SHIFT – 180

SECOND SHIFT - 60

# PLACEMENT DETAILS (BATCH 2014-2018) Till 2017

S.No	Name of the Company	No. of Students Recruited
1	INFOSYS	57
2	ACCENTURE	33
3	MINDTREE	11
4	NEWGEN	12
5	MUSIGMA	4
6	ZS ASSOCIATES	3
7	MAHINDRA COMVIVA	5
8	GLOBAL LOGIC	7
9	ERNST & YOUNG	2
10	HITACHI	4
11	AZCOM	1
12	ION TRADING	2
13	HUGHES	6

### HIGHLIGHTS

Name: Sagar Miglani, 11014802714  
Company: ION Trading  
Package: 12 LPA  
Name: Manav Gupta, 01714802714  
Company: ION Trading  
Package: 12 LPA  
Name: Mayank Shah, 60214802714  
Company: ZS Associate (Data Science Associate)  
Package: 12 LPA  
Name: Kartikey Aggarwal, 30696402714  
Company: ZS Associate (Decision Analytics Consultant)  
Package: 6.53 LPA  
Name: Rahul Chauhan, 11514802714  
Company: Libsys

# GGSIU RESULTS (December 2017)

## SEMESTER WISE TOPPERS IN THE DEPARTMENT

### 3<sup>rd</sup> SEMESTER (BATCH 2016-2020)

- AKSHAT KISHORE
- VIRENDER SINGH
- AKANSHA SOOD
- SAKSHI BINDAL
- SHUBHI JAIN

### 5<sup>th</sup> SEMESTER (BATCH 2015-2019)

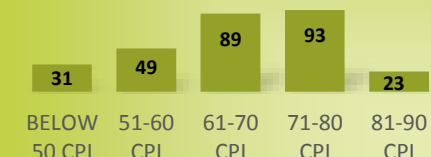
- ABHISHEK MITTAL
- SNEHIL
- GYAN VARDHAN
- CHIRANJEEV SINGH BINDRA
- SHRUTIKA AGARWAL

### 7<sup>th</sup> SEMESTER (BATCH 2014-2018)

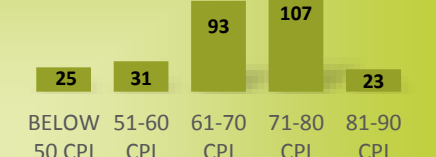
- AISHWARYA DHEMBLA
- MAYANK SHAH
- SOAMYA SINGLA
- KRITI JAIN
- RAGHAV GUPTA

## CPI SCORE OF THE STUDENTS (BATCH WISE)

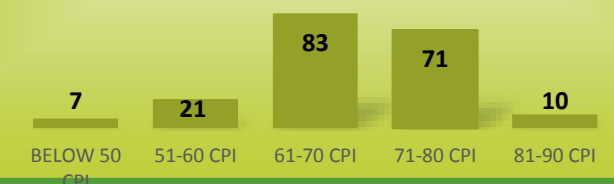
### NUMBER OF STUDENTS (BATCH 2016-20)



### NUMBER OF STUDENTS (BATCH 2015-19)



### NUMBER OF STUDENTS (BATCH 2014-18)





## FACULTY UPDATES

Faculty members pursuing Ph.D.

1. Mr. Neeraj Garg
2. Mr. Sandeep Tayal
3. Mr. Saurabh Rastogi
4. Mr. Ashish Sharma
5. Ms. Sudha Narang

Faculty member qualification update



Mr. Deepak Gupta was awarded Ph.D. in Computer Science and Engineering (Engineering & Technology) from Dr. APJ Abdul Kalam Technical University (Formerly Uttar Pradesh Technical University), Lucknow, UP, India in 2017. The topic of the Ph.D. is "Software Usability Model for Software Development using Soft Computing Approach".

1. Deepak Gupta, Ashish Khanna, Book Published by LAP LAMBERT Academic Publishing, on "Recent Research in Computer Science and IT", pages:112, Published on: 07/07/2017. ISBN-13: 978-3-330-34917-9, ISBN-10: 3330349174
2. Gupta, Deepak, and Anil K. Ahlawat. "Usability Feature Selection via MBBAT: A Novel Approach." Journal of Computational Science (2017).
3. Pooja Mudgil, Iti Mathur, Pooja Gupta, "Comparative Analysis of Indexing Techniques", Proceedings of the 11th INDIACOM; INDIACOM-2017; IEEE Conference ID: 40353 2017 4th International Conference on "Computing for Sustainable Global Development", 01st - 03rd March, 2017
4. Aarzo Gupta, Shalini Singh, Pooja Gupta, "An Improved Service Allocation & Deallocation in Cloud Environment", Proceedings of the 11th INDIACOM; INDIACOM-2017; IEEE Conference ID: 40353 2017 4th International Conference on "Computing for Sustainable Global Development", 01st - 03rd March, 2017
5. Yogesh Sharma, "Botnet Detection by Network Behavior Analysis", Global Research and Development Journal for Engineering (GRDJE), ISSN (online) : 2455-5703

## INDUSTRIAL VISIT

An Industrial visit was organized by the Department of Computer Science and Engineering for the students of 2nd and 3rd year at Doordarshan, DTH Earth Station, Todapur, Delhi on 2nd Nov 2017. Dr Namita Gupta, HOD, CSE and Mr. Ashish Sharma coordinated the event. 45 Students along with three faculty members (Mr. Ashish Sharma, Dr. Pooja Gupta, Ms. Ruchi Goel) visited the site.

Inside the campus whole setup was divided into categories: Uplink and Downlink. Uplink setup consisted of satellite dishes and high power amplifiers (HPA) used to receive signals from regional centers and uplink them to the satellites using Ku-band whereas the downlink setup (baseband station) consisted of encoders, switches, routers, multiplexers and duplexers. Doordarshan is handling 80 channels at present and upgrade plan is going on to handle 2500 channels. Students gained practical knowledge about real time data centers and transmission of information across the globe.



## SEMINAR ORGANIZED BY THE DEPARTMENT

1. Every week a Technical session is being organized by Code Matrix Society under the Coordination of Faculty Member Ms. Sudha Narang.
2. Mr. Anupam Kumar & Mr. Sandeep Tayal coordinated a one day session for Hultz Prize Foundation on 28/10/2017.
3. A one day Career Counseling session was organized on 28/10/2017 for prefinal CSE students. Mr. Ashish Sharma and Mr. Alok Sharma coordinated the session which was delivered by CSE Alumnis.



## ALUMNI INTERACTION SESSION

28<sup>th</sup> October 2017, Block -1, Lab 114

An alumni interaction session was conducted for 2<sup>nd</sup> and 3<sup>rd</sup> year students of CSE department on 28.10.2017 from 10 am to 1 pm in Block-1 of the CSE department at MAIT. The alumni students Ms. Arushi Arora, Mr. Pranav Gupta and Mr. Rohit Gupta (2011-2015 batch) addressed the students about how to utilize the opportunities provided in the college for building up a career in engineering field.

They also gave students a great insight to the activities conducted by the college for promoting the character and the personal well-being. They focused on giving an idea to students regarding how to make use of opportunities like Soft Skills, group discussion, aptitude training etc. conducted in the college as a part of study group activities. Towards the end of the session there was an interactive session, where students gained information about how to face an interview, what companies to focus on and how to prepare themselves as a competent engineering graduate. Faculty members Mr. Ashish Sharma and Mr. Alok Kumar Sharma coordinated the event.

Alumni interaction forum of the CSE department is focused to get the feedback towards the development of the department. It organizes frequent meets for the alumni's, in which the alumni's meet and share their innovative ideas/thoughts for the development of the Department. The main aims and objectives are given below -

- Encouraging innovative education
- Provide placement opportunities for students
- Update the student knowledge by organizing seminars on recent topics
- To maintain the contacts of the alumni of the college
- To provide a forum for bringing together the passed-out students of the College, in order to contribute effectively to the cause of engineering education and research in the country
- To help the students in identifying organizations for doing project works in connection with their curriculum
- To serve as a link between the institution's faculty, students, management and the industries
- Employer of the alumni is also contacted to receive the performance to examine the quality of the outcome expected



# ACM CHAPTER EVENTS

Organized By-ACM-MAIT Student Chapter



Association for Computing Machinery student chapter at Maharaja Agrasen Institute of Technology is an active student body formed in November 2015 that aims to develop a technical aptitude among students by hosting events and conducting seminars and workshops to accomplish this mission. During the academic year 2017-18, the following events were conducted under the chapter in the direction of creating a technologically charged atmosphere of on campus:

1. Launch of mait.acm.org
2. Launch of Android App
3. Front-End Web Development Workshop - 4/10/2017  
A workshop to introduce front end web development technologies (HTML, CSS, Bootstrap) to MAIT ACM Student Chapter members.
4. ACM GeekEnds - January-February 2018  
Quiz on MAIT-ACM HackerEarth portal for three weeks. Each week's winners.  
1st Prize: Vipin Bhardwaj  
2nd Prize: Bittoo Aggarwal  
3rd Prize: Shubham Jain
5. Workshop on Interactive Graphics and HTML Canvas - 15th-16th March 2018  
Around 25 students participated and learnt HTML canvas and JavaScript and implemented this knowledge gained onto a project they developed on the spot.

# ENTREPRENEURS

1. Patanjali Kumar, Batch 2013 – 2017, started his company “Entrepreneurables Cluster India Pvt. Ltd.” Which is digital based firm to provide new business opportunities to compete with current market giants and also help traditional business to join hands with the latest technology and create more leads and business.  
Corporate Identity Number: U74999BR2016PTC032689  
Registration Number: 032689  
GSTIN: 10AAECE4244K1ZY
2. Konark Sharma and Aryan Sharma, Batch 2013-2017, started their company “Free Stand Sampling Solutions Pvt. Ltd.” which aims to provide full cycle sampling coupled with extensive and concrete market research backed by state of the art technology enabled platforms.



# STUDENT'S ACHIEVEMENTS



1. Namit Mohale was awarded Certificate of Appreciation for his contribution to community on behalf of “Ek KAAM DESH KE NAAM” as a volunteer in PM Narendra Modi APP on 29<sup>th</sup> June 2016
2. Namit Mohale completed his internship for MASH project under Communication Department for Six weeks during June-July 2016.
3. Mr Naman Gupta from Maharaja Agrasen Institute of Technology has interned with XPrep from 6th June 2017 to 31st July 2017 as an Android Developer. Tutor enablement platform, XPrep has been selected by Facebook for its global programme, FBStart, designed to help early stage mobile startups.

# STUDENTS GOING FOR HIGHER STUDIES



Name	University	Course
Apruv Jain	IIT, Kharagpur	M.Tech (CSE)
Surbhi Pal	IIT, Roorkee	M.Tech (CSE)
Shivangi Dixit	IGDTUW, Delhi	M.Tech (ISM)
Ishwarya Anand	USICT, Delhi	M.Tech (IT)
Raunak Choubey	International Management Institute, Delhi	MBA
Rajiv Joshi	New York University, Brooklyn	M.S. Computer Science
Vaishali Garg	USICT, Delhi	M.Tech (CSE)
Priya Sinha	IMT, Ghaziabad	PGDM Finance
Manish Kumar	DTU, Delhi	M.Tech (CSE)
Shivam Sharma	XLRI, Jamshedpur	PGDM Business
Prashant Joshi	San Diego State University, California	M.S. Computer Science

# WORLD FOOD INDIA HACKATHON 2017

Ministry of Food Processing Industries (MoFPI), Government of India organized a global event World Food India (WFI) , 3 – 5 November 2017, to facilitate partnerships between Indian and international businesses and investors. Coinciding with the World Food India, a 2 day Hackathon was organized on 27 & 28 October 2017 in New Delhi. Participants were to design technology enabled solutions for identified problem areas in food processing sector. 30 – 50 teams comprising students, IT Professionals and start-ups participated in WFI Hackathon. Winning teams were felicitated by Hon'ble Prime Minister during the World Food India inaugural event on 03 November 2017 at Vigyan Bhawan, New Delhi. Mr. Anupam Kumar, Assistant Professor, CSE Department was one of the mentors for World Food India. Around 8 Teams from CSE and IT department participated in the program.



## HULTZ PRIZE 2017

**Hultz Prize 2017** Maharaja Agrasen was organised on 28th October 2017 in Mini Auditorium. The topic for the startup was 'To harness the power of energy to change lives of 10 million people by 2025'. Each team gave presentation of about 20-30 minutes on the topic. The ideas cited were supported by thorough research. Over 50 teams competed to win the Campus round, in which one was declared winner & two were given runner-up position. The Campus Director of the event was Akshay Khattar, 3<sup>rd</sup> Year CSE Department.

The team named Solartrix was adjudged first in the presence of Director Dr. Neelam Sharma and HOD of CSE Dept. Dr. Namita Gupta. TEAM SOLARTRIX developed a product plan for SYNCHOLAR - SELF EFFICIENT SUN SYNCHRONOUS SOLAR WATER HEATER Winner details : 1. Ayush garg – 3<sup>rd</sup> year CSE 2. Vidushi bhadola 3<sup>rd</sup> year IT 3. Arushi Sharma 2<sup>nd</sup> year IT 4. Shrey Gupta 3<sup>rd</sup> year IT.

The winning team on campus will represent Maharaja Agrasen Institute at any of the regional finals in United Kingdom, San Francisco, Dubai, Shanghai in March 2018 meeting schools like Harvard, MIT, Cambridge, Oxford etc. The selected teams at the regional finals will compete at the Hultz prize global flagship competition in September 2018 at the United Nations Headquarters in New York for USD1M. This Event was organized by Mr. Anupam Kumar and Mr. Sandeep Tayal, CSE Department



## 1. Twitter + Citizen Science + AI = improved flood data collection

December 25, 2017 by Grant Hill, University of Dundee

Researchers from the University of Dundee are combining Twitter, citizen science and cutting-edge artificial intelligence (AI) techniques to develop an early-warning system for flood-prone communities. Dr. Roger Wang and his colleagues from the University's School of Science and Engineering have shown how AI can be used to extract data from Twitter and crowd sourced information from mobile phone apps to build up hyper-resolution monitoring of urban flooding. They believe this is the first time that Computer Vision has been applied to flooding issues. Urban flooding is difficult to monitor due to complexities in data collection and processing. This prevents detailed risk analysis, flooding control, and the validation of numerical models. The Dundee team set about trying to solve this problem by exploring how the latest AI technology can be used to mine social media and apps for the data that users provide. They found that social media and crowdsourcing can be used to complement datasets based on traditional remote sensing and witness reports. Applying these methods in case studies, they found these methods to be genuinely informative and that AI can play a key role in future flood warning and monitoring systems.

## 2. New AI method keeps data private

December 20, 2017, University of Helsinki

Modern AI is based on machine learning which creates models by learning from data. Data used in many applications such as health and human behavior is private and needs protection. New privacy-aware machine learning methods have been developed recently based on the concept of differential privacy. They guarantee that the published model or result can reveal only limited information on each data subject. Previously you needed one party with unrestricted access to all the data. Our new method enables learning accurate models for example using data on user devices without the need to reveal private information to any outsider," Assistant Professor Antti Honkela of the University of Helsinki says. The group of researchers at the University of Helsinki and Aalto University, Finland, has applied privacy-aware methods for example to predicting cancer drug efficacy using gene expression. "We have developed these methods with funding from the Academy of Finland for a few years, and now things are starting to look promising. Learning from big data is easier, but now we can also get results from smaller data, Academy Professor Samuel Kaski of Aalto University says. The method was published and presented in early December in the annual premier machine learning conference NIPS.

## 3. Researchers use WWII code-breaking techniques to interpret brain data

December 13, 2017, University of Pennsylvania

Cracking the German Enigma code is considered to be one of the decisive factors that hastened Allied victory in World War II. Starting with clues derived from espionage, computer scientists were able to work out the rules that turned a string of gibberish characters into plain German, providing life-saving and war-shortening intelligence. A team of researchers from the University of Pennsylvania, the Georgia Institute of Technology, and Northwestern University have now accomplished a similar feat, using cryptographic techniques to decode the activity of motor neurons. Their approach has allowed them to predict, from brain data, and with only generic knowledge of typical movements, which direction monkeys will move their arms. The same cryptography-inspired technique could eventually be used to decode more complex patterns of muscle activation, for use in prosthetic devices, or even speech, to aid those with total paralysis. The research team was led by Konrad Kording, a Penn Integrates Knowledge Professor with appointments in the Department of Neuroscience in Penn's Perelman School of Medicine and in the Department of Bioengineering in the School of Engineering and Applied Science, and Eva Dyer, then a postdoctoral researcher in Kording's lab and now an assistant professor in the Department of Biomedical Engineering at the Georgia Institute of Technology and Emory University. They collaborated with the group of Lee Miller, a professor of physiology at Northwestern University.

## 4. Algorithm leverages Titan Supercomputer to create high-performing deep neural networks

November 29, 2017, Oak Ridge National Laboratory

Deep neural networks have demonstrated mastery of tasks once thought uniquely human. Their triumphs have ranged from identifying animals in images, to recognizing human speech, to winning complex strategy games, among other successes. Now, researchers are eager to apply this computational technique—commonly referred to as deep learning—to some of science's most persistent mysteries. But because scientific data often looks much different from the data used for animal photos and speech, developing the right artificial neural network can feel like an impossible guessing game for nonexperts. To expand the benefits of deep learning for science, researchers need new tools to build high-performing neural networks that don't require specialized knowledge. Using the Titan supercomputer, a research team led by Robert Patton of the US Department of Energy's (DOE's) Oak Ridge National Laboratory (ORNL) has developed an evolutionary algorithm capable of generating custom neural networks that match or exceed the performance of handcrafted artificial intelligence systems. Better yet, by leveraging the GPU computing power of the Cray XK7 Titan—the leadership-class machine managed by the Oak Ridge Leadership Computing Facility, a DOE Office of Science User Facility at ORNL—these auto-generated networks can be produced quickly, in a matter of hours as opposed to the months needed using conventional methods.

The research team's algorithm, called MENNDL (Multinode Evolutionary Neural Networks for Deep Learning), is designed to evaluate, evolve, and optimize neural networks for unique datasets. Scaled across Titan's 18,688 GPUs, MENNDL can test and train thousands of potential networks for a science problem simultaneously, eliminating poor performers and averaging high performers until an optimal network emerges. The process eliminates much of the time-intensive, trial-and-error tuning traditionally required of machine learning experts.

"There's no clear set of instructions scientists can follow to tweak networks to work for their problem," said research scientist Steven Young, a member of ORNL's Nature Inspired Machine Learning team. "With MENNDL, they no longer have to worry about designing a network. Instead, the algorithm can quickly do that for them, while they focus on their data and ensuring the problem is well-posed."

## 5. Big data creates family tree of constitutions

November 22, 2017, Dartmouth College

Inspired by the challenge to see how ideas are shared between nation's through their founding documents, researchers at Dartmouth College have constructed a big data, evolutionary taxonomy of the world's constitutions. The analysis traces the textual ties that bind and has resulted in a mathematically-derived constitutional family tree. Visuals included with the study reveal the evolution of constitutions and constitutional ideas, and provide a window into how nations share political concepts. "If a new country arose tomorrow, it would not draft a constitution from scratch," said Daniel Rockmore, the William H. Neukom 1964 Distinguished Professor of Computational Science at Dartmouth College, "it would look around to see what other countries have done, especially those that it feels a close relationship with." For decades, researchers have theorized that the evolution of national constitutions follow pathways similar to biological evolution. The Dartmouth analysis demonstrates that the historical development of constitutions follows the Yule Process - a model in evolutionary dynamics that describes birth process. "There's a long literature - mainly qualitative in nature - around how constitutions evolve through words," said Rockmore, "we show mathematically that the evolutionary approach that has been pondered since the 1970s is valid." While other analyses have used textual clues to identify connections, the Dartmouth research used machine learning to organize constitutions by topics - words statistically linked in documents - and identified the flow of topics over time between constitutions. "Constitutions are complex cultural recombinants," said Rockmore, "once you establish comparisons you can construct a tree and find close constitutional ancestors." To create the family tree, researchers focused on 591 national constitutions spanning 1789-2008. The U.S. Constitution is the earliest such document and is identified as the "Last Universal Common Ancestor Constitution" that serves as the root for the analysis. All other constitutions are measured through mathematical tools that reveal surprising relationships and unexpected information about what constitutions serve as the source of the most and least textual inspiration. Based on relationships revealed through the research, Thailand's original 1932 founding document is cited as one of the history's major constitutions having borrowed from 15 other constitutions and provided the textual basis for 33 others. The most prolific constitution is identified as Paraguay's 1813 constitution, which thrives among Latin America's abundance of constitutional texts.

## 6. The future of search engines: Researchers combine artificial intelligence, crowdsourcing and supercomputers

August 3, 2017, University of Texas at Austin

The outcome is the result of two powerful forces in the evolution of information retrieval: artificial intelligence—especially natural language processing—and crowdsourcing. Computer algorithms interpret the relationship between the words we type and the vast number of possible web pages based on the frequency of linguistic connections in the billions of texts on which the system has been trained. But that is not the only source of information. The semantic relationships get strengthened by professional annotators who hand-tune results—and the algorithms that generate them—for topics of importance, and by web searchers (us) who, in our clicks, tell the algorithms which connections are the best ones. Despite the incredible, world-changing success of this model, it has its flaws. Search engine results are often not as "smart" as we'd like them to be, lacking a true understanding of language and human logic. Beyond that, they sometimes replicate and deepen the biases embedded in our searches, rather than bringing us new information or insight. Matthew Lease, an associate professor in the School of Information at The University of Texas at Austin (UT Austin), believes there may be better ways to harness the dual power of computers and human minds to create more intelligent information retrieval (IR) systems.

Combining AI with the insights of annotators and the information encoded in domain-specific resources, he and his collaborators are developing new approaches to IR that will benefit general search engines, as well as niche ones like those for medical knowledge or non-English texts.

This week, at the Annual Meeting of the Association for Computational Linguistics in Vancouver, Canada, Lease and collaborators from UT Austin and Northeastern University presented two papers describing their novel IR systems. Their research leverages the supercomputing resources at the Texas Advanced Computing Center.

## 7. Source code of award-winning knowledge base is now available for everyone

September 1, 2017, Saarland University

Almost every word has more than one meaning. Modern search engines solve this problem using knowledge bases. Yago was one of the first knowledge bases, developed by scientists at the Max Planck Institute for Informatics in Saarbrücken and the Télécom ParisTech in Paris. Last week, the researchers received an award for their work on Yago from the most important scientific journal in the field of artificial intelligence. Today, they are releasing Yago's source code. "If you, for example, do a internet search for the German term 'Allianz', this is merely a collection of letters for the search engine," explains Professor Gerhard Weikum, Scientific Director at the Max Planck Institute for Computer Science in Saarbrücken. "With the aid of a knowledge base, this chain of letters can be mapped to possible meanings, for example, 'Allianz SE', the German financial and insurance services company, or the 'Rebel Alliance' from Star Wars films." These days, we cannot imagine not having this background knowledge in search engines, and it is only by the use of knowledge bases that Google for example can also show stock market prices, logos, and the managing director of Allianz SE in addition to the Web search results.

The knowledge bases began as academic research projects. "Especially Yago and, only a little later, DBpedia pioneered this field," Weikum says. The Yago project was the topic of the doctoral dissertation in 2007 by Fabian Suchanek at the Max Planck Institute for Informatics in Saarbrücken. More and more researchers took part in the project. Today, Yago is a collaboration of the Max Planck Institute, the Télécom ParisTech University, where Suchanek now holds a professorship, and the Max Planck spin-off, Ambiverse. Yago contains the knowledge of Wikipedia and other sources in a form that is readable for the computer. For example, the system knows that Allianz SE is headquartered in Munich, but also that the Rebel Alliance is fighting in the Star Wars universe. Since many applications in various areas of industry are using artificial intelligence to be more efficient and, most importantly, easier to operate, Yago is seeing wide use. Applications can, with the help of Yago, search in several languages as well as classify facts both spatially and temporally. Therefore, search queries like this are possible: "Tell me all the scientists who lived in the 20th century, were awarded a Nobel Prize, and were born in the greater Stuttgart area." An application example is provided by Primal.com, a Canadian startup, which uses Yago to help businesses better understand the interests of their customers and make content and product recommendations that serve their individual needs. The most high-profile use of Yago in the last ten years was when IBM used it in the Watson artificial intelligence system, which won the Jeopardy! Quiz show in 2011.