Alan Turing
Einstein of computer science

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Important years

1912 - birth
1936 – Turing machine
1932-42 - Enigma
1950 – birth of AI, Turing test
1954 - death
2007 - Donald Michie died
2009 – official rehabilitation
2012 - centenary
Abstract computing machine
Can compute anything
computable
Formalizes the concept of
algorithm
Universal Turing machine can simulate all other TMs
– universal TM, UTM
Church-Turing thesis: “everything algorithmically computable is computable by a Turing machine.”

Gödel’s 1st theorem, decidability
Independent of time, HW
Universal concept, like Einstein’s relativity
1932-42 - Enigma

German coding machine
Turing led the decoding of Enigma
Designed „bombe“
Donald Michie in the team
Web source:
- One of the most important non-military discoveries in WW2
- Saved Nx1000 lives
- Shortened WW2 by M months
1950 – birth of AI, Turing test

Turing, Alan (October 1950), "Computing Machinery and Intelligence", Mind.
What can computers do?
Can they think, love …?

„Strong AI“ (GOFAI) computer can do anything a human can

Turing: Intelligent behaviour presumably consists in a departure from the completely disciplined behaviour involved in computation.

Machine intelligence - 1956 McCarthy AI
1950 – birth of AI, Turing test

Turing, Alan (October 1950), "Computing Machinery and Intelligence", Mind.
Turing test – TT too hard or too simple?
"Fair" Turing test
Total TT – TTT, visual TT
Total total TT – TTTT
Loebner test 1991-
CAPTCHA, Jeopardy 2011

Searl’s Chinese room
HUMAN/COMPUTER INTELLIGENCE
1954 – death
2009 – official rehabilitation

on behalf of the British government, and all those who live freely thanks to Alan's work I am very proud to say: we're sorry, you deserved so much better
With Turing on the Enigma project, first director of any AI department in the world in 1965, was director at the Turing institute where several Slovenian researchers studied for a while, honorary member of JSI, SAZU ...

Ivan Bratko, father of Slovenian AI, Donald was 1 month per year in Ivan’s room at JSI. Now at JSI Turing’s room, Donald Michie’s room

Sobotna priloga Dela: Let this be in memory of Donald Michie as Turing’s contemporary and our dear colleague, and the extreme genius Alan Turing that marked the lives of every human in the world as hardly anybody.
Fame

Lady Gaga 400 millions
Mozart, Einstein 40 millions / 9920
Alan Turing 4 millions / 1677
Most people on streets not familiar
(modest improvement since centenary events)

Invented modern computing and artificial intelligence.
„Einstein“ of computer science
1966- ACM Turing award
Equivalent to Nobel prize
Street in Manchester (City)
The meaning

In most of the devices around you there are one to tens of TMs.

One of the people that best influenced the progress of human civilization. Like Einstein.
Alan Mathison Turing

Thank you