## 100 years of

## **COMPUTER SCIENCE**

10 Academic Papers that Changed Computing Over 10 Decades





On the significance of the principle of excluded middle in mathematics, especially in function theory

Luitzen Egbertus Jan Brouwer

On Countable Numbers, with an Application to the Entscheidungs problem **Alan Turing** 









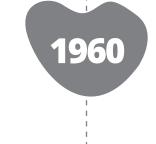
A Mathematical Theory of Communication *Claude E. Shannon* 

Non-Cooperative Games *John Nash* 









Recursive Functions of Symbolic Expressions and Their Computation by Machine, Part 1

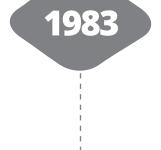
John McCarthy

Time, Clocks, and the Ordering of Events in a Distributed System **Leslie Lamport** 







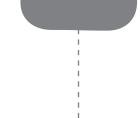


Probabilistic Encryption

Shafi Goldwasser, Silvio Micali

Growing a Language

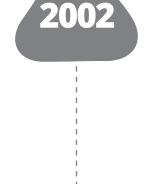
**Guy Steele** 



1998







Practical Byzantine Fault Tolerance

and Proactive Recovery *Miguel Castro, Barbara Liskov* 

Propositions as Types *Philip Wadler* 







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