

Prof. Rex Li's Writings

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Title:

How Three Math Geniuses Contribute to AI
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Summary/ Abstract: Many mathematical geniuses contributed to the development of AI in the 20th century. I traced three important ones.

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How Three Math Geniuses Contribute to AI

Background Innovators

1. Kurt Godel (1906-1978)

Incompleteness Theorems (1931)

2. Alonzo Church (1903-1995)

Lambda Calculus

1. Alan Turing (1912-1954)

- Cambridge
- Turing machine
- Postulates the feasibility of algorithm in computing (1936)
- Reformulates Godel's results
- Church – Turing Thesis
- Ordinal logic (1938)
- Studies under Church

2. Walter Pitts (1923-1969)

- University of Chicago
- Bring logical calculus into artificial neural network (1943)
- Query Bertrand Russell (1935)
- Friend: Jerome Lettvin

3. Wang Hao (1921-1995)

- University of Chicago / MIT
- Proves Math Theorems by a computer program (1959)
- Wang Tiles
- Seem to become a friend of Godel
- MIT Professor