

Education:

- Ph.D(2018) in Mathematics, Shanghai Jiao Tong University
Adviser: Prof. Jin Liang
Thesis: Research on solutions for several nonlinear systems based on functional analysis methods
- M.D(2014), B.D(2011) in Mathematics, Chengdu University of Information Technology
Adviser: Prof. Dingping Wu
Master thesis: ω - fixed point and its homotopic extensions

Research:

I currently focus on inviting optimization methods to tackle a variety of non-convex problems that appear in machine learning, signal processing, robotics and so on. Last years my main concentration was on nonlinear fixed point theory and partial differential equations.

Awards:

- 2018 Excellent Graduate in Shanghai Jiao Tong University
- 2015 Excellent Teaching Assistant in Shanghai Jiao Tong University
- 2015 Guorui Scholarship of China Electronics Technology Group(CETG)
- 2011 Excellent Graduate in Chengdu University of Information Technology
- 2009 First Prize in Mathematical Contest in Modeling of Sichuan Province
- 2008-2010 First Prize Scholarship in Chengdu University of Information Technology

Publications:

1. **Longsheng Cai**, Jin Liang, New generalizations of Darbo's fixed point theorem, Fixed Point Theory Appl. (2015)2015:156.
2. **Longsheng Cai**, Jin Liang, Jinguo Zhang, Properties of solutions for a couple fractional nonlinear system, J. Nonlinear Convex Anal. 19(2018), 323-344.
3. **Longsheng Cai**, Jin Liang, Jinguo Zhang, Generalizations of Darbo's fixed point theorem and solvability of integral and differential systems, J. Fixed Point Theory Appl.(2018)20:86.
4. **Longsheng Cai**, Jinguo Zhang, Process analysis and effectiveness evaluation of iterative closest point algorithm, The 6th International Conference on Mechanical, Control and Computer Engineering(ICMCCE), 2021, 1916-1920.
5. **Longsheng Cai**, Jinguo Zhang, Circle Detection Through Nearest Distance, The 3rd International Conference on Computer Vision, Image and Deep Learning & International Conference on Computer Engineering and Applications(CVIDL & ICCEA), 2022, 973-976.

Teaching:

- 2014-2016, Honor Mathematical Analysis, Shanghai Jiao Tong University

Working:

- 2018.07-2020.07: Algorithm Director, Yogo Robotics in Shanghai.
- 2020.10-2023.10: Senior Algorithm Expert, Keenon Robotics in Shanghai.

Grant:

- The commercial application and manufacture of mobile robots with accurate indoor localization based on GOL, ¥6000000 , Co-PI, 2016-2018.

Service:

- 2019.03-2021.06 External Master Adviser, Shanghai Dianji University.