Shuchi Liao

Senior Research Engineer

My Contact

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Phoenix, Arizona, United States

shichiliao.github.io/portfolio

Hard Skill

- Math modeling and reporting
- Data mining and analysis
- Programming (Java, Python, JavaScript)
- Lab operation/experimental skills
- Project innovation and management

Soft Skill

- Fast learning
- Decision making
- Communication
- Multi-tasking

Education Background

- **Brown University**
  PhD in Engineering (Chemical/Environmental)
  Minor in Applied Mathematics
  Completed in 2021/8

- **Sichuan University (China)**
  Bachelor and Master in Materials Engineering
  Completed in 2017/4

Language

Chinese: Native or Bilingual Proficiency
English: Professional Proficiency
Japanese: passed N2 level test

About Me

Dedicated and detail-oriented Engineer and developer with years of experience. Eager to apply my lab/math/programming skills for any complex engineering problems encountered in your company. Check out my portfolio site for some research projects I have accomplished: shichiliao.github.io/portfolio

Professional Experience

Senior Research Engineer
Spectrum dynamic Research Corp.
2022/4 – Present
Key responsibilities:

- Product R&D: Utilizing Computational Fluid Dynamics (CFD) and parameterized optimization techniques for mathematical modeling, as well as evaluating product performance using a human lung model.
- Product Optimization: Conducting thorough analysis of test data and customer feedback, while leveraging machine learning models to establish a comprehensive library of product performance parameters.
- Project Management: Actively involved in all significant R&D initiatives within the company, assuming leadership roles in mathematical modeling for product design and statistical modeling for product performance projects.

Postdoctoral Researcher
Brown University(full-time) & nextSource Inc.(part-time)
2021/8 – 2022/8
Key responsibilities:

- Conducting laboratory simulations and employing advanced mathematical modeling techniques to investigate the migration behavior of pollutants in subsurface.
- Engaging in extensive research to explore the potential of polymer nanoparticles as highly effective pipeline inhibitors in oil and gas development processes.

Research Assistant
Brown University
2017/9 – 2021/7
Key responsibilities:

- Conducted in-depth research on the intricate migration behavior of nanoparticles within complex multi-component soil systems. Developed comprehensive mathematical models to predict their migration patterns.
- Explored the residual and migration characteristics of perfluoro and polyfluoro compounds in soil. Developed robust mathematical models for precise prediction of the migration behavior of these compounds.

Awards

2013 & 2016	National Scholarships (for undergrad & grad students)
2017-2018	Brown University Fellowship