Chih-Hao Chen

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EDUCATION

MCGILL UNIVERSITY
PhD in Mechanical Engineering
Jan. 2015 - Apr. 2020 | Montreal, Canada
GPA: 4.00 / 4.00

IMPERIAL COLLEGE LONDON
MSc in Advanced Computational Methods for Aeronautics, Flow Management and Fluid Structure Interaction
Sept. 2012 - Sept. 2013 | London, UK
GPA: 3.96 / 4.00

LINKS

Github:// Chih-Hao Chen
LinkedIn:// Chih-Hao Chen
Personal Webiste:// Chih-Hao Chen

PROJECTS

FRONT-END DEVELOPMENT
MyEscrow (React.js, Next.js)
NewsClient(Swift)
MyPorfolio (Vue.js)
App Store Mockup(Swift)

BACK-END DEVELOPMENT
MyEscrow GraphQL API
(Node.js • TypeScript • MongoDB • PostgreSQL)
TrainingBuddy REST API
(Node.js • MongoDB)

SKILLS

DEVELOPMENT SKILLS
Full-Stack Development
App Development
Micro-Services
Docker • Kubernetes
Multi-threading Programming

PROGRAMMING SKILLS
Highly Proficient:
JavaScript • Swift • C • Python

Proficient:
TypeScript • GraphQL
ReactiveX Framework (RxSwift • RxJS)

EXPERIENCE

MYGO | Full-Stack Developer
Aug. 2020 - Now | Taipei, Taiwan

- Developing the first Taiwan block-chain escrow repository platform;
- Solo-developing the front-end of the project-management engine with React.js and Next.js;
- Solo-developing the GraphQL back-end API with TypeScript;
- Employing a micro-services architecture with Kubernetes;
- Introducing the automated CI/CD pipeline to the current development.

MCGILL UNIVERSITY | Postgraduate Researcher
Jan 2015 - Apr 2020 | Montreal, Canada

- Proposed the concept of dynamic deflated restarting in Krylov subspace solvers;
- Developed novel linear solvers for solving ill-conditioned systems with an optimal balance between convergence and required memory footprint;
- Implemented and verified the proposed solvers with industrial aircraft bodies in the in-house code of the advanced aerodynamics group in Bombardier Aerospace for aircraft design;
- This work led to two published journal papers and three conference presentations:
  - A dynamically deflated GMRES adjoint solver for aerodynamic shape optimization (Computers & Fluids 2018);
  - GCRO with dynamic deflated restarting for solving adjoint systems of equations for aerodynamic shape optimization (International Journal of Numerical Methods for Heat & Fluid Flow 2019);
  - Adjoint-Based Aerodynamic Optimization of Benchmark CRM Wing (AIAA Aviation 2017-3755);
  - A Hybrid GMRES Solver with Deflation for Ill-conditioned Adjoint Systems for Aerodynamic Shape Optimization (AIAA Aviation 2017-4414);
  - GCRO with Dynamic Deflated Restarting for Solving Adjoint Systems of Equations for Aerodynamic Shape Optimization (AIAA Aviation 2019-3708).

MONKLAND COMMUNITY CENTER | Back-end Developer
Nov. 2017 - June 2018 | Montreal, Canada

- Developed the back-end REST API to support a community project - TrainingBuddy;
- Supported the front-end developer about the overall API requests and user interface;
- Deployed the REST API in DigitalOcean for the front-end development.

NOVATEK MICROELECTRONIC CORP./RICHTEK TECHNOLOGY | Analog Integrated Circuit and System Designer
Feb. 2007 - July 2012 | Taiwan

- Designed multi-channel Power Management Integrated Circuits (PMICs), previously employed in Samsung TVs, tablets, laptops, and LG mobile phones; This work led Richtek to be the leading supplier in Samsung products;
- Developed software tools to facilitate the design process of integrated circuits and systems, previously used among the team members;
- Supervised and trained new graduates.