

Chieh-An Lin

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Experiences

Senior Embedded Software Engineer · WPC Systems Ltd. · Taiwan 2020–Present

- Delivered **25 company-owned products** + 4 ODM products from 3 series (USB, Wi-Fi, & Ethernet) of data acquisition (DAQ) devices & industrial controllers
- Created firmware & **cross-platform software driver** for >10 functionalities: DIO, AIO, motion control, current sensing, pulse/encoder counters, AHRS, bootloader, etc.
- Developed Taiwan's first domestically developed train wheel profile measuring system, achieving a precision level of 1mm
- Led a firmware team of 3 engineers in developing real-time embedded systems; defined coding & documentation guidelines; built standardized testing pipeline & debugging methodologies; designed & version control workflow

Research Staff · Institute for Astronomy · University of Edinburgh · UK 2017–2020

- Found **the Universe smoother than expected** using likelihood analysis with MCMC
- Implemented & processed 1 trillion objects across 10,000 datasets for covariance analysis; delivered a **public code**
- Pioneered the application of Variational Inference & Active Learning to astrophysics
- Crafted an **interactive website** visualizing Taiwan's COVID-19 data
- Published 20 papers (>2000 citations); gave >30 professional speeches; reviewed articles

National Civil Service · Fenglin Veteran Hospital · Taiwan 2016–2017

- Social works, healthcare management, local community development, & software maintenance

PhD-Preparing Researcher · Astrophysics Division · CEA Saclay · France 2013–2016

- Cut computing time by 2 orders of magnitude by inventing a new **simulation algorithm**
- Accelerated inference with Approximate Bayesian Computation by 80%
- Solved a theoretically intractable problem in cosmology using a stochastic model

Education

PhD · Astrophysics · Paris-Diderot University · France 2013–2016

MSc · Physics · École Polytechnique · France 2012–2013

French Engineering Degree · École Polytechnique · France 2009–2013

Intensive Preparatory Program (CPGE) · Lycée Louis le Grand · France 2007–2009

Skills

Programming · C · Python · Git · Unix · FreeRTOS · LwIP · \LaTeX · LabVIEW · HTML/CSS · Javascript · D3 · C# · Docker · C++ · Lisp · Java · Caml · VBA

Statistics · Inference · Probabilistic Modeling · Bayesian Statistics · General Machine Learning · Image Processing · Dimension Reduction · Data Visualization

Protocols · I2C · SPI · UART · CAN · TCP · UDP · USB (HID & DFU)

Languages · Mandarin · French · English

Last updated: October 17, 2023