Rain Hu **intervalrain@gmail.com | 0931-639-433 | Taiwan | https://intervalrain.github.io**

Summary

4+ years semiconductor device R&D engineer in department of TD(technology development) in UMC, and currently work in smart manufacturing department for EDA developemnt and smarter solution finding on wafer production. Experienced 40, 28, 22nm technology nodes on eHV applications. An programming enthusiast who loves to find efficient methods for all inefficient things. A patient coder and is open to all new technology and tools. Also a patient with Berger's disease but a life fighter. (Class 6, Internal Organ Loss Function and Related Disabilities)

Education

National Tsing Hua University Hsinchu, Taiwan
MS Material Science and Engineering, GPA: 3.97 *Sep 2014 | Aug 2018*

National Tsing Hua University Hsinchu, Taiwan
BS Material Science and Engineering, GPA: 3.61 *Sep 2010 | Aug 2014*

Work Experience

UMC Hsinchu, Taiwan *Device Engineer* *August 2018 | August 2022*

- Semiconductor devices and process development for eHV applications. (e.g. OLED, Display IC)
- Device characteristics tuning and development on 40, 28, 22nm technology node, including poly gate and HKMG, etc.
- WAT analysis, test-key layout design, DRC coding and evaluation, product yield rate enhancement.
- Production yield rate enhancement.
- Basic IC circuit analysis, (e.g. Ring Oscillator Analysis)

UMC Tainan, Taiwan *DL Engineer* *August 2022 | Present*

- Smart manufacturing solution for semiconductor production.
- EDA software development.
- Standard operation procedure optimization.
- Yield rate enhancement, waste and expenses reduction.

Skills

Programming Languages C/C++, Java, C#.Net, Oracle SQL, VBA

Languages Chinese (Native), English, Korean (Basic)

Engineering Semiconductor Device and Physics, DRC, Layout Design, WAT, SPC, Verilog

Tool Laker, Calibre, Sentaurus TCAD, Git, Visual Studio, Vim, Eclipse, VS Code

Key Achievement

Co-cut project SVRF, DRC
The more efficient wafer utilization by arranging test chip layout with the assistance of computer languages. (More than 50% experiments cost reduction.)

22eHV Compact Project Semiconductor Devices
Including I/O devices mask reduction and LV share implants plan. (About 20% cost reduction)

22eHV Project Semiconductor Devices
New technology node development for eHV applications.

NWR project Semiconductor Devices, DRC
A method to optimize devices isolation and decrease current leakage for eHV environment. (4% yield rate enhancement, from 90% to 94% on 28eHV production. Current BKM for eHV platforms)

U2C Project DRC, Python, VBA *https://github.com/intervalrain/U2C*
A tool development for translation from one DRC language to the other DRC language. Helping CAD engineers to develop Boolean logic on masking by tooling layers.

IDAS+ VBA, Oracle SQL *https://github.com/intervalrain/IDAS*
An integrated data analysis tool, and report mailing system. Including data retrieval from database, data visualization, and statistics of data.

UEDA 5.0 C#, .Net, Python, JavaScript, Oracle SQL, ...
A database integrated software development for usage of all processes, including multiple functions like auto-report, data visualization, statistics, and AI on analysis.

Certification

TOEIC (Test of English for International Communication)
775/900 as Level Blue

TOPIK I (Test of Proficiency in Korean)
180/200 as Level 2