John F. Hughes

jfh4193@g.rit.edu | linkedin.com/in/johnfhughes | (716) 969-7286

Objective: Recent graduate seeking a position relating to either device or process engineering with a great interest in honing software development skills. Available September 2017.

Software

MATLAB
Java
Silvaco Athena/Atlas
Minitab
AutoCAD LT
Pyxis Layout

Instrumentation

Semiconductor parameter analyzer
X-ray diffractometer
Atomic force microscope
Scanning-electron Microscope
Leica Nomarski Microscope
P5 profilometer
ASML lithography stepper
Physical/chemical vapor deposition vacuum systems

Leadership

AIChE RIT Chapter Webmaster
Graduate teaching assistant
Alumni brother of Alpha Phi Omega, Xi Zeta Chapter
RIT Designate Orientation Leader

Languages

Spanish (ILR 2)
ASL (ILR 3)

Education

Master of Science – Rochester Institute of Technology 08/15 – 08/17
Microelectronic Engineering **3.81 / 4.00 GPA**

- Researched methods to improve sensitivity of metal-oxide chemical sensors for volatile organic compound detection through process development, electrical simulation, and robust electrical testing procedures
- Collaborated with a group to develop a MATLAB program with a GUI to effectively model ion implantation with different processing conditions

Bachelor of Science – Rochester Institute of Technology 09/10 – 05/15
Chemical Engineering **3.40 / 4.00 GPA**

Professional Experience

Northrop Grumman Corporation – Baltimore, Maryland 05/16 – 08/16
Technical Engineer Intern [Process Integration, Emerging Silicon Technologies]

- Obtained and maintained a **confidential DoD** clearance
- Characterized silicon devices through both I-V and transconductance characteristic curves obtained through semiconductor parameter analyzers
- Developed design of experiments to determine optimal chemical-mechanical planarization (CMP) processing of deep-trench isolation (DTI) integration
- Diagnosed problematic photolithography processing of semiconductor devices through root-cause analysis of process modules

Harris Space and Intelligence Systems – Rochester, New York 06/15 – 08/15
Manufacturing Engineer Intern [Analytical Instrumentation]

- Organized process development documents of analytical instrumentation in a PTC Windchill database for product lifecycle management
- Developed design of experiments to determine optimal production of wire assemblies for piezoelectric detectors

Volvo Group – Hagerstown, Maryland 01/14 – 07/14
Manufacturing Engineer Co-op [Group Trucks Operations]

- Developed efficient, ergonomic standard operating procedures for workstation development of Project EVENFLOW, a regeneration of the diesel engine manufacturing line used in Hagerstown's manufacturing plant
- Managed Kaizen project which developed apparatus to prevent screws/bolts from falling into engines and subsequently causing downtime

United Refining Company – Warren, Pennsylvania 03/13 – 08/13
Process Engineer Co-op [Process/Project Engineering Department]

- Designed process flow improvement for asphalt loading operations
- Characterized light and heavy hydrocarbons with quantitative analysis
- Analyzed piping and instrumentation diagrams of flare system exhaust for EPA regulatory commission