i@nmcdougall.net
+1 (703) 982-0991

Ian E. McDougall

Washington DC
www.iemcd.xyz

Experience

SICPA Securink Corp, Springfield VA
Senior Process Engineer — Jul 2021—Present

- Installed process historian system in existing ink and 10,000-liter varnish plants.
- Supported the commissioning and commercialization of new 20,000-liter varnish plant.
- Re-created missing engineering diagrams for legacy systems.

Washington Metropolitan Area Transit Authority (WMATA), Washington DC
Mechanical Controls Engineer — Jun 2019—Jun 2021

- Updated and maintained design criteria, specifications, sequences of operation, and standard drawings for the control of industrial and office HVAC, pumping, and other systems.
- Reviewed contract submittals for projects with budgets from $50 million to $2.8 billion.
- Led several inspections and participated in many other inspection and commissioning teams.
- Supported maintenance personnel with troubleshooting of equipment in the field and modified PLC and HMI programs as necessary.

Praxair, Tonawanda NY
Advanced Process Controls Engineer — Jul 2013—May 2018

- Deployed model predictive control (MPC) to improve efficiency and reliability at nine cryogenic air separation plants globally, saving ~$300k/year each.
- Simplified system upgrades and deployments with PowerShell scripts and Hyper-V.
- Configured and demonstrated SCADA and MPC simulations for biennial internal training.
- Supported networking and systems issues globally.
- Monitored and supported MPC performance in the Scandinavian region.

University of Massachusetts Lowell, Lowell MA
Research Assistant — Jan 2012—Jul 2013

- Wrote Perl scripts to convert rheological data formats. https://github.com/iemcd/rheology
- Published: McDougall, I., N. Orbey, and J. M. Dealy, “Inferring meaningful relaxation spectra from experimental data,” J. Rheol. **58,** 779 (2014) http://dx.doi.org/10.1122/1.4870967

Education

University of Massachusetts Lowell, Lowell MA
BSE Chemical Engineering, Mathematics Minor — May 2013

Skills

Languages: JavaScript, R, PowerShell, MATLAB, Perl, bash, VBA, Python, PLC Ladder Logic
Software: Aspen DMC+, GE iFix, Hyper-V, COMSOL Multiphysics, Simulink, Aspen Plus, Matrikon, SIMCA P+, Microsoft Office, Microsoft Visio, AutoCAD, Autodesk Revit
General: Data Analysis, Statistics, Process Control, Chemistry, Programming, Process Engineering, Design of Experiment, Process Simulation, Distillation, OPC, Modbus

Last Modified: 20. Mar. 2023