

# CURTIS RUDER

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## Summary

### Software Product Owner and Development

- Product owner and lead developer for commercially licensed desktop application *PRISM™*
- Set software strategy, vision, sales, and marketing objectives
- Led code conversion of 85,000 lines of VB6 to VB.Net
- Ported relational database backend from Access to SQLite and retained backwards compatibility
- Coordinate all new and existing client facing activities from sales and product demonstrations through troubleshooting and software packaging
- Refactored critical runtime bottlenecks using object-oriented programming techniques which resulted in 80% runtime improvement and cleaner code
- Automated software data generation process using LP techniques, API calls, browser automation, and HTML parsing which resulted nearly 200 man-hour per month reduction

### Refinery Optimization and Product Planning

- Experience using Aspen PIMS and other LP technologies to optimize refinery operations and blending activities
- Coordinated gasoline and distillate blending activities for major U.S. Gulf Coast refinery
- Developed and integrated Aspen PIMS LP yields for four conversion units and five hydrotreaters
- Calibrate and maintain refinery process models for all 125 active U.S. refineries leveraging nearly 25,000 publicly available data points per quarter
- Interface with stakeholders to interpret results and bolster data driven decisions

### Process Engineering and Equipment Strategy

- Experience using Aspen HYSYS and other process simulation technologies to develop, maintain, and optimize steady-state process unit models
- Direct support experience for crude units, FCC, and cumene fixed bed alkylation unit
- Familiarity with operational objectives and limitations of nearly all fuels units
- Experience with process equipment sizing for heat exchangers and distillation trays
- Integrated OSIsoft PI and LIMS data to monitor system health and drive business decisions

## Experience

### Baker & O'Brien

Houston, TX

2017 – current

#### IT Strategy Lead

2021 - current

- Interviewed, negotiated with, and recommended a managed IT service provider
- Coordinated transition from outgoing IT staff and incoming managed IT service provider
- Intimately involved in project selection, justification, and coordination

#### Software Product Manager

2020 - current

- Product manager for commercial desktop application *PRISM™*
- Set software strategy, vision, and marketing objectives
- Interface directly with clients and business leaders to understand objectives and needs
- Develop and audit internal metrics for software quality and calibration productivity

#### Engineering Consultant

2019 - current

- Worked on multiple client projects leveraging experience and technical capabilities to delivery high quality work on time and on budget
- Leveraged self-developed LP framework on multiple 6 figure assignments
- Conducted market analysis on nearly all refining centers in the U.S.
- Developed IMO2020 predictive model and presented results at COQA industry conference

#### Software Developer

2018 - current

- Lead developer on 85,000 line code base conversion from VB6 to VB.Net
- Migrated database backend from 32-bit Microsoft Access to SQLite
- Optimized runtime issues resulting in a nearly 80% runtime reduction

- Data entry automation using browser automation, API end points, and direct HTTP requests
- Created LP framework which reduces the development time and complexity for LP studies

#### Refinery Modeling Specialist

2017 - current

- Maintain and improve refinery process models for all 125 U.S. refineries
- Parse nearly 25,000 data points per quarter to create industry look back
- Interface with software subscribers to share industry insights
- Leveraged automation and LP framework to eliminate 200 man-hours per month

#### Flint Hills Resources

Corpus Christi, TX

2012 - 2017

##### E&P Product Planner

2016 - 2017

- Executed weekly LP studies to determine buy / sell plans for gasoline blending intermediates, calibrate gasoline recipes, and drive economic decision making for project support
- Identified and remediated historically unoptimized gasoline opportunity worth \$12MM / yr
- Championed RBOB terminal specification change worth \$3.5MM / yr
- Led project justification effort for \$5.0MM / yr blending debottlenecking project
- Overhauled Gasoline LP model improving accuracy and profitability
- Created and automated blending metrics and lookback process
- Temporary distillate planner coordinating all jet and diesel blending activities

##### E&P LP Model Development

2015 - 2016

- Responsible for improving existing LP accuracy. Improved representation of unit constraints, validated and updated flow routing flexibility, and calibrated yield profiles
- Created tools and statistical approach for integrating site OSIsoft PI and lab data (LIMS)
- Used multivariant regression analysis to develop and implement unit vectors for five hydrotreaters, two FCCs, coker, naphtha reformer, and hydrocracker units
- Coordinated blend study which improved non-linear blending interactions of gasoline blendstocks which reduced deviation between predicted and actual by more than 2x

##### Strategy Reliability Engineer

2013 - 2015

- Owned equipment strategy for FCC, HF alky, cumene, and coker units
- Executed root cause failure analysis (RCFA) and resolved failure modes
- Developed work scope and strategy for cumene unit turnaround
- Created and delivered company-wide training sessions on Weibull and predictive models

##### Process Engineer

2012 - 2013

- Aspen HYSYS site lead for process unit modeling
- Supported FCC and fixed bed alkylation
- Mentored four process engineers as temporary team lead
- Created unit monitoring tools, automated monthly reports, and created visualization template for unit monitoring that became base expectation for all process engineers
- Championed emissions reduction effort via FCC fullburn transition. Resulting documentation and justification methodology was referenced as best practice for future operational studies

#### NCRA Refinery (CHS Inc)

McPherson, KS

2009 - 2012

##### Process Engineer

2009 - 2012

- Supported refinery crude and light ends units
- Lead overnight Process Engineer on major refinery turnaround
- Owned turnaround exchanger cleaning strategy

## Skills

|             |            |               |         |            |
|-------------|------------|---------------|---------|------------|
| Aspen HYSYS | Aspen PIMS | C++           | C#      | CSS        |
| Git         | HTML       | HTTP          | Java    | Javascript |
| JSON        | MS Office  | SASS / SCSS   | SQL     | Subversion |
| VB.Net      | VBA        | Visual Studio | VS Code | XML        |

## Education

Fort Hays State University

**B.S. Computer Science (4.0 / 4.0)**

2020 - 2022

Texas A&M – Corpus Christi

**MBA Finance Concentration (3.9 / 4.0)**

2016 - 2019

Kansas State University

**B.S. Chemical Engineering (3.6 / 4.0)**

2004 - 2009