

# Christopher Ryan Mackay

Citizenship: United States Citizen

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Portfolio: <https://chris-mackay.github.io/>

## EDUCATION

### Wentworth Institute of Technology Boston, MA

Bachelor of Science in Mechanical Engineering Technology

September 2008-August 2012

GPA: 3.21/4.00

### Massasoit Community College

Associate of Applied Sciences in HVAC

September 2005-December 2007

GPA: 3.73/4.00

**TECHNICAL SKILLS:** Computer Drafting & Construction Document Production, HVAC System Design, Building Load Calculations, Computer Programming

**TECHNOLOGIES:** AutoCAD 2019, Revit 2020, Navisworks Manage & Simulate 2020, Trane Trace 700, Microsoft Office 365 (Word, Excel, Power Point, Access), C# programming language, Python programming language, Microsoft .NET Framework, Revit API, Visual Studio 2019 Community, Inno Setup, Git, Dynamo for Revit

## ENGINEERING EXPERIENCE

### DPS Group Global Framingham, MA

*Mechanical Engineer*

November 2015-Present

- Work directly with project engineers to design HVAC systems for pharmaceutical and bio-tech manufacturing facilities
- Perform building load calculations utilizing Trane Trace 700
- Size and design layouts for ductwork and piping systems utilizing Revit and AutoCAD software
- Produce and manage construction documents
- Utilize Navisworks to coordinate with Architects, Electrical, Plumbing, and Fire Protection engineers to minimize conflicts during construction
- Review contractor submittals and answer RFI's
- Perform field visits for new and on-going projects and produce field and punch-list reports
- Develop custom productivity add-ins for Revit utilizing the Revit API and the C# programming language
- Work as the BIM lead in the mechanical department, creating custom Revit content including families, parameters, schedules, and tags, etc.

### Accomplishments

- Worked as one of the mechanical engineers designing Moderna Therapeutics in Norwood, MA. Key role involved the design and coordination of the ductwork and piping systems for both the South and North campuses. The South facility won the ISPE Facility of the Year award in the Facility of the Future category.
  - <https://ispe.org/facility-year-awards/winners/2019/facility-future>

### Fitzemeyer & Tocci Woburn, MA

*Mechanical Design Engineer*

September 2012-November 2015

- Worked directly with project engineers to design HVAC systems for academic & healthcare facilities
- Size and design layouts for ductwork and piping systems utilizing Revit and AutoCAD software
- Produce and manage construction documents
- Set up and manage Revit and AutoCAD files for projects
- Review contractor submittals and answer RFI's
- Perform field visits for new and on-going projects and produce field and punch-list reports

## PROGRAMMING EXPERIENCE

- Developed a package of custom Revit add-ins
- Utilized the Revit API and the C# programming language
  - <https://github.com/chris-mackay/CRMRevitTools-v2020>
- Published an article on CodeProject. A reference for coding a custom MessageBox for Windows.
- Utilized the Microsoft .NET Framework and C# programming language
  - <https://www.codeproject.com/Articles/5264875/Dialog-Message-in-Csharp-for-NET-Framework-4-5>
  - <https://github.com/chris-mackay/DialogMessage>