

Michal Matyjasik

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Biochemist and self-taught software engineer. I build autonomous agent systems that do real client work from start to finish on their own, with independent reviews at every critical step and a person only where a decision needs one.

AUTONOMOUS SYSTEMS

Owner & Principal, Isotherm Building Science *Grand Junction, CO · 2026 to present*

- **One-step permit energy pipeline (shipped, in daily use).** Records each client meeting, transcribes it locally (Whisper) and turns it into the list of deliverables that starts the pipeline, which then runs on its own to a finished, reviewed client report: building energy model, heating and cooling loads, code compliance and moisture analysis. I am its first client and use it every day; it is built to serve others.
- **Autonomous build and review system (shipped).** Agents plan and build the work in isolated workspaces, and independent reviewers check each result, until the deliverables are done or a decision needs me.
- **Isotherm Projects (shipped).** Client and project app connected to Claude through an MCP server; it tracks every promise and follow-up from mail and calendar.
- **Markup (shipped).** An AI-native review interface: I mark up the files agents produce, and the agents read and answer each mark on the output itself instead of in a separate chat.
- **Koala Vault (operational).** Extended an open-source password manager with a background daemon that holds the decryption key and serves both the command line and AI agents. Written in Go.
- **Also built:** a residential HVAC equipment database of over 1 million models and a self-updating macOS audio downloader.

SAFETY AND ALIGNMENT CONTROLS I DESIGNED AND RUN

- **Accountable, context-free review.** Every critical step is reviewed by a different model in a fresh session that sees only the output. A reviewer may block a result only with a fix it can state, and a fix that fails counts against the reviewer.
- **Mass-deletion flag.** Any build that deletes more than 100 files under version control is stopped and flagged.
- **Confirm gate.** Sending mail and deleting records wait for a human click.
- **Account-wide rules.** Rules every agent and every delegated agent inherits, which no project rule or autonomy setting can weaken; for example, no agent deletes a user's file without explicit permission.

EARLIER WORK

Freelance marketing consultant and e-commerce web developer *2022 to 2026*

RESEARCH

Postdoctoral Research Fellow, Human Frontier Science Program *Hayden Lab, Boise State University · 2020 to 2022*

- Origin of life from an RNA perspective. Analyzed high-throughput sequencing libraries of self-assembling group I intron ribozymes in Python.

PhD, Biochemistry, University of Colorado Boulder *Batey Lab · 2019*

- Dissertation: The Purine Riboswitch Family Is a Robust and Versatile Platform for Diverse Small Molecule Binding. Two first-author papers and four crystal structures in the Protein Data Bank.

Research internships, University of Alabama at Birmingham and Utah State University *During undergraduate studies*

- UAB: co-author, *Annals of Clinical and Translational Neurology* (2015): methionine, BDNF DNA methylation and memory in epilepsy.

BS, Chemistry, Weber State University *Minors in mathematics and neuroscience · 2014*

- Undergraduate biology research with Dr. Jonathan Clark and neuroscience research with Dr. Matthew Schmolesky.

PROGRAMMING

- Programming since high school (Visual Basic) and building websites since age 19, including a custom site for Dr. Clark. Python, Go, Swift, SQL, JavaScript.

OUTSIDE WORK

- Designed and built my own house from scratch with my own hands, as my own general contractor; it needs almost no heating. I also run an organic microfarm and climb big walls.