C++ now

2026

# What Every C++ Programmer Needs to Know About AI

Jody Hagins

MAYSTREET

C++Now 2026

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Ask questions

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I'm not an expert

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Ask questions

I'm not an expert

There are no experts yet

# AI

Generative AI - text generated by LLMs

# Publications You Will Never Read

Hagins, Biswas, Yu, Model-Based Diagnosis in the Process-Ontology Framework, The Second AAAI Workshop on Model Based Reasoning, Boston, MA, July 1990

Biswas, Yu, Hagins, Strobel, Kendall, Cannon, Bezdek, An Efficient Scheme for Characterizing Hydrocarbon Plays for Analogical Analysis, AAPG Annual Convention, San Francisco, CA, June 1990

Biswas, Yu, Hagins, Strobel, Kendall, Cannon, Bezdek, PLAYMAKER: A Knowledge-Based Approach to Characterizing Hydrocarbon Plays, Applications of AI VIII (SPIE), Orlando, FL, April 1990

Biswas, Strobel, Hagins, Kendall, Cannon, Bezdek, An Associational Scheme for Characterizing Hydrocarbon Plays for Analogical Reasoning, IEEE Expert, March 1990

Biswas, Hagins, Debelak, Qualitative Modeling in Engineering Applications, 1989 IEEE Conference on Systems, Man, and Cybernetics, Cambridge, MA, November 1989

Weinberg, Hagins, Biswas, Extending Temporal Reasoning in Process-Oriented Qualitative Reasoning, Proceedings of IJCAI-89 Workshop on Model Based Reasoning, Detroit, MI, August 1989

Debelak, Biswas, Hagins, Qualitative Modeling in Chemical Engineering Applications, American Institute of Chemical Engineers: 1989 Summer National Meeting, August 20, 1989

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Debelak, Biswas, Hagins, Qualitative Modeling in Chemical Engineering Applications, American Institute of Chemical Engineers: 1989 Summer National Meeting, August, 1989

# Experience and Training

Alan Wilson: https://www.flickr.com/photos/ajw1970/28201197585/

# C++ is H-A-R-D

Many argue C++ is an expert-only language

# My Journey

2023: ChatGPT
2023: OpenRouter.ai
2024: Sonnet 3.5
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# 2023: ChatGPT

# 2023: ChatGPT

Litmus Test: Build complete feed handler from specs

# 2023: ChatGPT

### 1.4.3 Order Cancel Message

This message is sent whenever an order on the book is modified as a result of a partial cancellation.

**Order Cancel Message**

| Name | Offset | Length | Value | Notes |
|---|---|---|---|---|
| Message Type | 0 | 1 | "X" | Order Cancel Message |
| Stock Locate | 1 | 2 | Integer | Locate code identifying the security |
| Tracking Number | 3 | 2 | Integer | Nasdaq internal tracking number |
| Timestamp | 5 | 6 | Integer | Nanoseconds since midnight |
| Order Reference Number | 11 | 8 | Integer | The reference number of the order being canceled |
| Cancelled Shares | 19 | 4 | Integer | The number of shares being removed from the display size of the order as a result of a cancellation |

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Indistinguishable from my own

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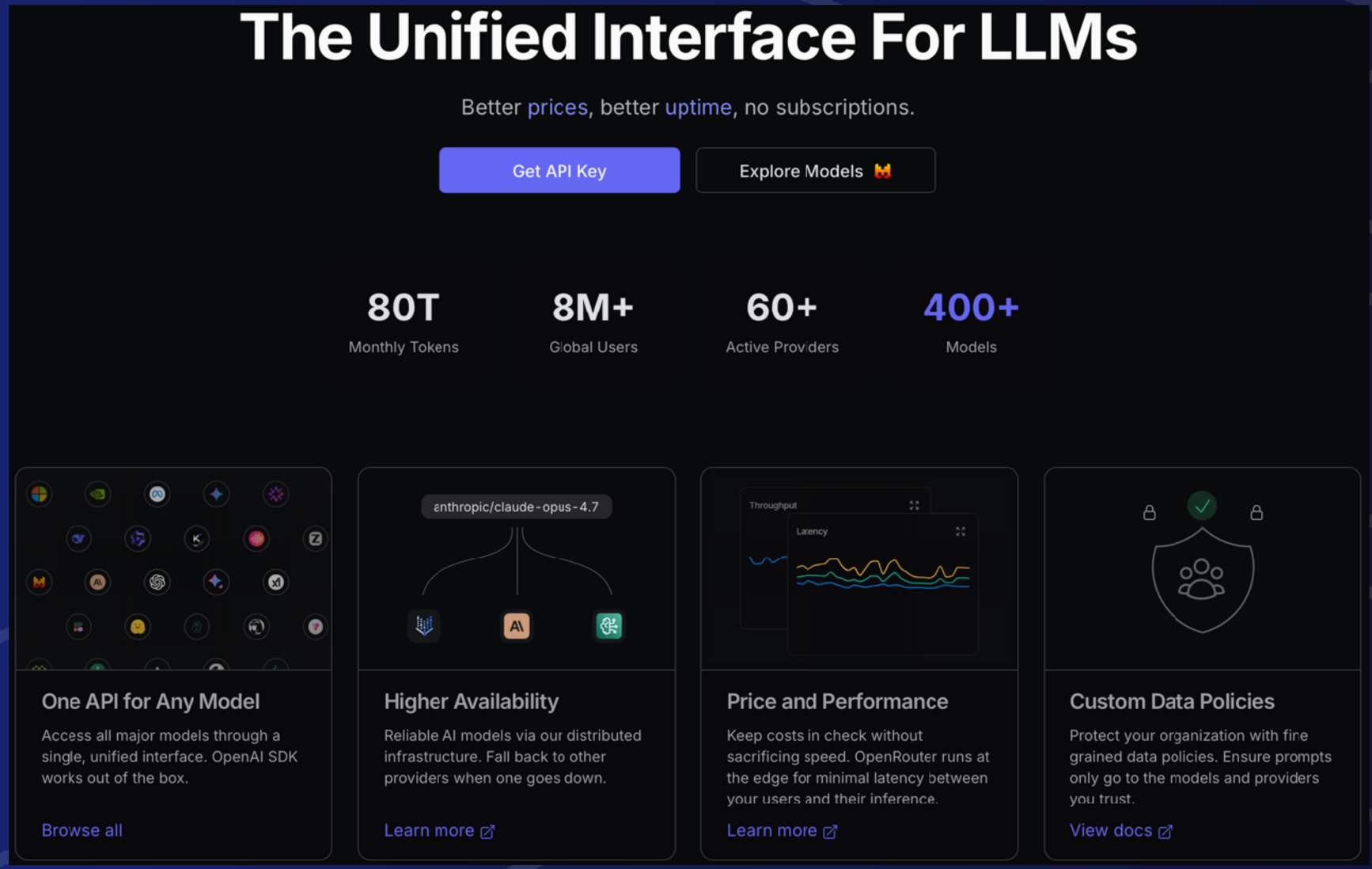
# 2023: OpenRouter.ai



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# 2024: Sonnet 3.5

- First time to process complete PDF
- No more python to split PDFs
- No more text file with page numbers for all tables
- Only Sonnet models for a long time

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# 2024: Sonnet 3.7

- First time to go directly from spec to code
- Only for representation
- I was getting better at managing context

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# 2024: Sonnet 4

- Go from spec to code plus dispatching
- Tests were MUCH better
- Code Review was really, really good
- I had gotten really good at managing context

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# 2025: CppCon

- A number of talks that mentioned AI
- I asked the same question

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# Sep 29, 2025: Sonnet 4.5

- Amazing
- Me or the model?

# Sep 29, 2025: Sonnet 4.5

- Amazing
- Me or the model?
- Much less 💩 but still 💩

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# Oct 9, 2025: OPRA

- Options feed handler, fairly simple
- Complete implementation with tests
- Including unique A/B arbitrage algorithm
- Not production quality, but usable as a baseline
- Still good bit of 💩

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# Nov 24, 2025: Opus 4.5

- My quality had been improving as I improved my process
- I had come up with ways to make Sonnet better
- Opus was still a significant jump
- Code review
- Test spec generation
- Not much 💩

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# Dec, 2025: Production FH

- Implemented production quality feed handler
- I didn't write a line of code
- Tests were praised as example to be imitated
- Indistinguishable from my own code
- I was happy to commit and take responsibility
- No 💩

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# Dec, 2025: Orchestrator

- Started building a full orchestrator
- Automate the process I had been doing manually
- Lots of hooks and scripts, specific to claude code
- Ant Farm is still a pipe dream, but there is some hope

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- Continuously running invocation
- Fully tested
- FIX Client
- FIX Server
- Sequencer
- Matching Engine
- Ant Farm is no longer a pipe dream - a matter of when

# Q & A

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