Non-Technical Introduction to Artificial Intelligence

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Outline

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About Me

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Yogesh Haribhau Kulkarni

Bio:

- ▶ 20+ years in CAD/Engineering software development
- ▶ Got Bachelors, Masters and Doctoral degrees in Mechanical Engineering (specialization: Geometric Modeling Algorithms).
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Understanding Artificial Intelligence

A Simple Guide for Everyone

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AI is Already Part of Your Daily Life!

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What is Artificial Intelligence?

Think of AI as:

- ▶ Teaching machines to be smart
- ▶ Like training a very clever assistant
- ▶ That never gets tired
- ▶ And can remember everything
- ▶ But needs YOUR guidance to work properly

In simple words: Making computers do tasks that normally need human intelligence

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AI in Your Everyday Life

You're already using AI without realizing it!

- **WhatsApp:** Suggests quick replies
- **Google Photos:** Groups photos by faces automatically
- **Netflix/Prime:** Recommends shows you might like
- **Gmail:** Filters spam emails
- **Facebook:** Shows posts you're likely to enjoy
- **Google Maps:** Predicts traffic and suggests routes
- **Amazon:** "People who bought this also bought..."
- **YouTube:** Recommends next video to watch

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Banking and Shopping

- **ATM Check Deposit:** Reads your check automatically
- **Credit Card:** Detects unusual purchases (fraud protection)
- **Online Shopping:** Personalized product recommendations
- **Virtual Assistants:** Alexa orders groceries by voice
- **Loan Applications:** Faster approval decisions

All powered by AI working behind the scenes!

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How Does This "Intelligence" Actually Work?

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Learning from Experience - Like Humans

How you learned to cook:

- ▶ First time: Maybe too salty or burnt
- ▶ Next time: Adjusted based on what went wrong
- ▶ After many attempts: You know exactly what to do
- ▶ Now: You can even experiment with new recipes

AI learns the SAME way:

- ▶ Give it many examples
- ▶ It learns patterns
- ▶ Gets better with practice
- ▶ Can then handle new situations

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Real Example: Email Spam Filter

Old Way (Before AI):

- ▶ Engineers write rules: "If email says FREE MONEY, it's spam"
- ▶ Spammers change words to "FR33 M0NEY"
- ▶ Rules break, spam gets through

New Way (With AI):

- ▶ Show AI 10,000 spam emails
- ▶ Show AI 10,000 real emails
- ▶ AI learns subtle patterns (not just keywords!)
- ▶ Adapts automatically when spammers change tactics

This is why your Gmail spam filter is so good!

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Another Example: Voice Assistants

When you say: *"Alexa, what's the weather today?"*

- ▶ AI recognizes your voice (among all household members)
- ▶ Converts speech to text
- ▶ Understands you mean TODAY's weather, not tomorrow
- ▶ Knows YOUR location automatically
- ▶ Speaks response in natural language

All this happens in 2 seconds! Amazing, right?

The AI Family - Different Types

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Understanding the AI Family

Think of it like vehicles:

- **Artificial Intelligence:** All vehicles (the big category)
- **Machine Learning:** Automatic transmission cars
  - Learns from data automatically
- **Deep Learning:** Self-driving cars
  - Very sophisticated, handles complex tasks
- **Generative AI:** Cars that can build new roads
  - Creates NEW content: text, images, music

Each is more advanced than the previous!

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ChatGPT - You May Have Heard About It

What is ChatGPT?

- ▶ An AI you can chat with, like texting a friend
- ▶ Can answer questions, write emails, explain topics
- ▶ Remembers your conversation
- ▶ Learned from millions of books and websites

What people use it for:

- ▶ Writing job applications
- ▶ Planning meals with ingredients at home
- ▶ Getting gift ideas
- ▶ Explaining complex topics simply
- ▶ Helping with homework (students!)

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AI in Different Aspects of Life

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AI in Healthcare

For Patients:

- ▶ Apps that monitor your health (heart rate, sleep)
- ▶ Reminders to take medicines
- ▶ Symptom checkers (though always see a real doctor!)

For Doctors:

- ▶ AI reads X-rays and scans faster
- ▶ Sometimes spots diseases doctors might miss
- ▶ Suggests treatment options based on millions of cases

Important: AI assists doctors, doesn't replace them!

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AI in Home and Kitchen

- **Smart Thermostats:** Learn when you're home, adjust temperature
- **Smart Lights:** Turn on/off based on your routine
- **Recipe Apps:** Suggest dishes based on ingredients you have
- **Smart Ovens:** Recognize food, set cooking time automatically
- **Robotic Vacuums:** Clean house while you're away
- **Smart Fridges:** Track expiry dates, suggest recipes

Making life easier and more convenient!

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AI in Transportation

- ▶ **Uber/Ola:** Matches you with nearest driver
- ▶ **Google Maps:** Predicts traffic, suggests faster routes
- ▶ **Flight Booking:** Predicts when prices will go up/down
- ▶ **Metro/Bus Apps:** Real-time arrival predictions
- ▶ **Parking Apps:** Find empty parking spots

Coming Soon:

- ▶ Self-driving cars (already testing in some countries!)

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AI in Entertainment

- **Music Apps:** Create playlists matching your mood
- **Photo Editing:** Auto-enhance, remove backgrounds
- **Gaming:** Opponents that adapt to your skill level
- **Movie Recommendations:** Netflix knows what you'll enjoy
- **AI-Generated Art:** Create images from text descriptions

Example: Type "sunset over mountains with purple clouds" and AI creates it!

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AI in Agriculture

- **Crop Monitoring:** Drones check plant health from above
- **Weather Prediction:** Better forecasts for planting
- **Pest Detection:** Identifies diseases early
- **Irrigation:** Waters only when needed, saves water
- **Harvest Timing:** Predicts best time to harvest

Helping farmers increase yields and reduce waste!

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Common Questions and Concerns

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"Will AI Take My Job?"

Honest Answer: Some jobs will change, some will disappear
Jobs Most Affected:

- ▶ Repetitive tasks: Data entry, assembly line work
- ▶ Some customer service (chatbots)
- ▶ Basic bookkeeping

Jobs Safe (and Growing):

- ▶ Anything requiring human touch: nursing, teaching, counseling
- ▶ Creative work: design, art, writing
- ▶ Complex decision-making: management, strategy
- ▶ Working WITH AI: new tech roles

Key: Learn to work alongside AI, not compete with it

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Real Examples: Jobs Transformed

Bank Teller:
- ▶ Before: Processed transactions all day
- ▶ Now: ATMs do basic transactions, tellers help with complex needs
- ▶ Better job: More customer interaction, less repetitive work

Travel Agent:
- ▶ Before: Book flights, hotels
- ▶ Now: Websites do simple bookings, agents plan complex trips
- ▶ Better job: Expertise-based, more interesting

Pattern: AI does boring parts, humans do interesting parts!

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"Is My Personal Data Safe?"

The Reality:

- ▶ AI needs data to learn and improve
- ▶ Your data = photos, messages, search history, purchases
- ▶ Companies use this to make better services

What You Can Do:

- ▶ Read privacy settings (yes, actually read them!)
- ▶ Limit what you share on social media
- ▶ Use privacy-focused browsers
- ▶ Turn off location when not needed
- ▶ Regularly delete search history

Balance: Convenience vs Privacy - YOU decide!

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"Can AI Make Mistakes?"

Yes! AI makes mistakes, sometimes serious ones:

- ▶ Face recognition fails for certain skin tones
- ▶ Language translators make funny (or offensive) errors
- ▶ Self-driving cars can't handle all situations
- ▶ Medical AI might miss rare conditions
- ▶ Loan approval AI might be biased

Remember:

- ▶ AI learns from data
- ▶ If data has bias, AI will have bias
- ▶ Always have humans check important decisions

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"Will Robots Become Like Humans?"

What you see in movies: Robots with feelings, consciousness
Current Reality:

- ▶ AI can seem intelligent but isn't "conscious"
- ▶ Doesn't have feelings, desires, or awareness
- ▶ Can't truly understand context like humans
- ▶ Limited to what it's trained for

Future:

- ▶ Scientists debate if this is even possible
- ▶ If it happens, it's decades away
- ▶ For now, AI is a tool, not a thinking being

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How to Use AI Wisely in Your Life

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Practical Tips for Everyone

DO:

- ▶ Use AI to save time on routine tasks
- ▶ Let AI handle boring, repetitive work
- ▶ Ask AI to explain things you don't understand
- ▶ Use AI recommendations as suggestions, not commands
- ▶ Verify important information from multiple sources

DON'T:

- ▶ Blindly trust everything AI says
- ▶ Share overly personal information
- ▶ Rely completely on AI for critical decisions
- ▶ Use AI for unethical purposes

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Everyday Uses That Make Life Easier

For Home Management:

- ▶ Ask AI for meal plans based on your preferences
- ▶ Get cleaning schedules and tips
- ▶ Budget tracking and expense suggestions

For Shopping:

- ▶ Compare prices across websites
- ▶ Get gift suggestions
- ▶ Find best deals and discounts

For Learning:

- ▶ Learn new recipes, crafts, skills
- ▶ Get explanations in simple language
- ▶ Practice new languages

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Safety Tips for Your Family

For Children:

- ▶ Monitor their AI interactions
- ▶ Teach them not to share personal info
- ▶ Explain that AI isn't always right
- ▶ Encourage critical thinking

For Elderly:

- ▶ Voice assistants can help with reminders
- ▶ But watch out for scams using AI voices
- ▶ Always verify before clicking links
- ▶ Set up trusted contacts for verification

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The Positive Side - How AI Helps Society

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AI Making the World Better

Environment:

- ▶ Predicting natural disasters
- ▶ Optimizing energy usage in cities
- ▶ Tracking endangered animals
- ▶ Reducing food waste in supply chains

Social Good:

- ▶ Making education accessible to remote areas
- ▶ Translating for refugees
- ▶ Helping disabled people communicate
- ▶ Detecting child exploitation online

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Inspiring Real Stories

Story 1: Finding Missing Children

- ▶ AI analyzes thousands of photos instantly
- ▶ Helps find missing children faster

Story 2: Helping Farmers

- ▶ Indian farmers use AI apps in local languages
- ▶ Get crop advice, weather alerts on basic phones
- ▶ Increased yields by 30%

Story 3: Breaking Language Barriers

- ▶ Real-time translation helps doctors treat foreign patients
- ▶ Breaking down communication barriers worldwide

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Getting Comfortable with AI

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Start Small - Try These Today

Beginner Level:

- ▶ Use Google Assistant/Siri for simple tasks
- ▶ Let Gmail organize your inbox
- ▶ Try Netflix/YouTube recommendations

Intermediate Level:

- ▶ Chat with ChatGPT (it's free!)
- ▶ Use AI photo editors
- ▶ Try Google Lens (point camera, get info)

Advanced:

- ▶ Use AI for work presentations
- ▶ Explore AI art generation
- ▶ Learn basic prompt writing (how to ask AI effectively)

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Free AI Tools You Can Try Right Now

- **ChatGPT:** Conversation and assistance
- **Google Bard:** Similar to ChatGPT
- **DALL-E Mini:** Create images from text
- **Grammarly:** Writing improvement
- **Google Translate:** Better than ever with AI
- **Canva Magic Write:** Design help
- **Microsoft Bing Chat:** Search with conversation

All available on your phone or computer!

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How to Talk to AI (Prompting)

Poor Prompt: "Tell me about food"

- ▶ Too vague, you'll get generic answer

Good Prompt: "Suggest 3 healthy dinner recipes using chicken, vegetables, and Indian spices that can be cooked in 30 minutes"

- ▶ Specific, clear, actionable

Tips:

- ▶ Be specific about what you want
- ▶ Provide context
- ▶ Ask for format you prefer (list, paragraph, steps)
- ▶ Can ask AI to explain like you're 5 years old!

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What's Next? The Future

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What to Expect in Next 5-10 Years

At Home:

- ▶ Fully automated smart homes
- ▶ AI companions for elderly care
- ▶ Personalized health monitoring

In Cities:

- ▶ Self-driving taxis common
- ▶ Traffic lights that optimize flow
- ▶ Energy grids that balance themselves

At Work:

- ▶ AI assistants for everyone
- ▶ More remote work enabled by AI
- ▶ Focus on creative, strategic work

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Preparing Yourself and Family

Stay Informed:
- ▶ Follow tech news in simple language
- ▶ Ask younger family members to teach you
- ▶ Join community classes

Be Adaptable:
- ▶ Don't fear change
- ▶ Try new things gradually
- ▶ Learn basic digital skills

Stay Human:
- ▶ Maintain personal connections
- ▶ Don't let AI replace human interaction
- ▶ Use technology to enhance life, not replace it

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Key Takeaways

Remember These Important Points

1. AI is already helping you daily (often invisibly)
2. AI learns from examples, like humans do
3. It's a powerful tool, but not magic
4. Use it to save time, not replace thinking
5. Your job may change, but you can adapt
6. Privacy matters - be conscious about data
7. AI makes mistakes - always verify important info
8. The future is AI-assisted, not AI-replaced
9. You can learn to use AI at any age
10. Human connection remains irreplaceable

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Final Thoughts

AI is not here to replace you

It's here to **work with you**

The best future is one where **humans and AI collaborate**

You bring: creativity, empathy, wisdom, judgment
AI brings: speed, memory, pattern recognition

Together = Powerful!

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Your Next Steps

This Week:

- ▶ Try one AI tool (ChatGPT or voice assistant)
- ▶ Notice where AI is already in your life

This Month:

- ▶ Use AI for one practical task
- ▶ Share what you learned with family

This Year:

- ▶ Become comfortable with AI basics
- ▶ Help others in your community understand AI

Remember: It's never too late to start!

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Questions to Discuss

Think about and discuss with family/friends:

- ▶ Where have you unknowingly used AI today?
- ▶ What's one task you'd like AI to help you with?
- ▶ What worries you most about AI?
- ▶ How can AI make your community better?
- ▶ What's one thing AI should never do?

These conversations help us shape how AI develops!

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Thank You!

Embrace the Future with Confidence

Remember: Technology should serve humanity, not the other way around.

Stay curious, stay informed, stay human!

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Quick Reference Summary

What is AI? Teaching machines to be smart
Where is it? Gmail, Netflix, Google Maps, Banking, Shopping
How does it learn? From examples and practice, like humans
Is it dangerous? Can be, if misused. Use responsibly
Will it take jobs? Some will change, new ones will come
Should I learn it? Yes! Start with simple tools
Can I trust it? Verify important information always
What's the future? AI-assisted everything, but humans remain essential

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References

Many publicly available resources have been refereed for making this presentation. Some of the notable ones are:

- ▶ "What counts as artificially intelligent? AI and deep learning, explained" - The Verge
- ▶ "Artificial Intelligence Overview" - Harry Surden
- ▶ "8 ways artificial intelligence is going to change the way you live, work and play in 2018" - Catherine Clifford
- ▶ "Artificial intelligence and the future of our work" - UNDP , IBM Research

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Thanks . . .

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