GUIDE · M.TECH THESIS

MTech thesis and project report *format*

An **MTech thesis** (also written M Tech thesis), which many universities call the M.Tech or M.E. dissertation, is the report of your postgraduate project: **preliminary pages, then chapters from the introduction and literature review through your method and results to the conclusions, then references and appendices**.

Last updated 2026-11-17

It is usually written in two stages: a Stage-I report that fixes the problem and the method, and a Stage-II thesis that adds the results. The university manuals we compared all use A4 pages and a wider left margin for binding, and all allow figures and tables to be numbered by chapter, but your own university's manual decides the font, the spacing, the similarity limit and the binding.

KEY POINTS

- **Thesis and dissertation are the same document.** IIT Kanpur and AKTU call it the M.Tech thesis; the University of Mumbai and VTU call it the dissertation.
- **It is usually written in two stages:** a Stage-I report that fixes the problem, the gap and the method, and a Stage-II thesis that adds the implementation, the results and the conclusion.
- **The three manuals we compared agree on little.** All use A4 pages and a wider left margin, but line spacing is 1.5 at the University of Mumbai, 1.15 at AKTU and double at IIT Kanpur.
- **Your university sets the similarity limit.** VTU's July 2023 circular set 10% or less and AKTU asks for below 20%; under the UGC's 2018 regulations, up to 10% carries no penalty.
- **Most manuals set no fixed length.** AKTU says an M.Tech thesis should not generally exceed about 150 pages.

WHAT CHANGED, NEWEST FIRST

Jul 2023	VTU's circular for final-semester M.Tech students set a plagiarism index of 10% or less, asked for a hard copy and a PDF, and capped the PDF at 400 pages.
2022	VTU's M.Tech regulations (2022 scheme) moved submission to one PDF uploaded to the university's evaluation portal.
Nov 2019	IIT Kanpur updated its guidelines for thesis preparation.
Mar 2019	AKTU issued its guidelines for preparing the thesis, including 1.15 line spacing and a similarity below 20%.
4 Mar 2014	The University of Mumbai's Academic Council approved its guidelines for theses, dissertations and reports, still the current reference.

Checked against the sources linked on this page. The "Last updated" date above shows when this page last changed.

What is a dissertation in M.Tech?

It is the written record of your year-long M.Tech or M.E. project, and it has to add something to published work: a new method, an improvement you can measure, or

a careful comparison nobody has made. Universities use both words for the same document. IIT Kanpur and AKTU call it the M.Tech thesis; the University of Mumbai and VTU call it the dissertation.

It also carries a large share of the degree. In the University of Mumbai's M.E. syllabus (Rev. 2022), Dissertation-I and Dissertation-II are worth 10 and 16 of the programme's 68 credits. The marks and examiners for each stage are on our project centre in Mumbai page. VTU's M.Tech regulations make the project a separate head of passing, preferably individual, examined by your guide and an external examiner before a viva-voce.

What is the M.Tech thesis format, part by part?

Most manuals agree on three blocks: preliminary pages, the chapters, and the reference material. A project with one main contribution often fits the six chapters below.

An M.Tech thesis runs in this order:

1. Title page
2. Certificate and declaration
3. Approval sheet
4. Abstract
5. Contents, with lists of figures and tables
6. Chapter 1: Introduction
7. Chapter 2: Literature review
8. Chapter 3: Proposed method
9. Chapter 4: Implementation
10. Chapter 5: Results and discussion
11. Chapter 6: Conclusion and future scope

12. References and appendices

Typical parts of an M.Tech thesis, in order

PART	WHAT IT CONTAINS
Title page	Title, the “submitted in partial fulfilment” statement, degree, your name and roll number, guide, department, institute and year, copied from your manual’s specimen.
Certificate and declaration	Your guide’s certificate that the work is your own, and your signed declaration of originality and academic honesty.
Approval sheet	Signed by the examiners. The University of Mumbai includes it only in the hard-bound copies made after the viva.
Abstract	The problem, method and main result, with no citations. Limits differ: 300 words at IIT Kanpur, 500 at the University of Mumbai, up to four pages at AKTU.
Contents and lists	Acknowledgements, table of contents, then lists of figures, tables and abbreviations.
Chapter 1: Introduction	The problem, why it matters, your objectives and contributions, and an outline of the thesis.
Chapter 2: Literature review	Recent papers compared by method, dataset, metric and limitation, ending with the gap you address.
Chapter 3: Proposed method	The system design or architecture, and exactly what you changed in the base method.
Chapter 4: Implementation	Data, tools, parameters and hardware, in enough detail for someone to repeat the work.
Chapter 5: Results and discussion	The baseline against your method on the same data, ablations, and what did not work.
Chapter 6: Conclusion	Each objective, met or not, then future scope. The University of Mumbai asks for conclusions numbered point by point.
References and appendices	Every cited source in one style, then code listings, extra results and your publications.

Order at the end differs: the University of Mumbai puts appendices before the references and acknowledgements after them; AKTU puts references first, then appendices, your publications and a short CV.

How do you write an M.Tech thesis, chapter by chapter?

Write it in a different order from the one it is read in. Each chapter points at your results, so the results come first and the abstract, which summarises everything, comes last.

1. **Results tables and figures.** Put your baseline-against-yours tables and graphs in place, with numbered captions, before you write a word around them.
2. **Method and implementation.** Write what you built and how you tested it while the details are fresh.
3. **Literature review.** With the method fixed, the review only has to compare the papers that lead to your gap.
4. **Introduction, problem statement and objectives.** Now you know exactly what the thesis delivers, so the objectives match the results.
5. **Conclusion, then the abstract last,** once every number is final.

What to write in each M.Tech thesis chapter, and the common mistake

CHAPTER	WHAT TO WRITE	COMMON MISTAKE
Introduction	The problem, why it matters, your objectives and contributions in brief, and a short outline of the chapters that follow.	Pages of general background on the field before the reader learns what problem you solve.
Literature review	Recent papers close to your problem, compared by method, dataset, metric and limitation, often in a summary table, ending with the gap you address.	One paragraph per paper with no comparison between them, so no gap comes out of it.
Problem statement and objectives	The gap restated as one precise problem, a few objectives you can check, and the scope. Some manuals keep this inside Chapter 1.	Objectives like “to improve accuracy” with no baseline, dataset or metric to check them against.
Proposed method	The architecture or block diagram, each step in order, and exactly what you changed in the base method, with equations numbered by chapter.	Describing the base paper’s method as if it were yours, without separating your change from it.
Implementation or experimental setup	The dataset and its split, preprocessing, tools and versions, parameters and hardware, in enough detail for someone to repeat the work.	Leaving out the split or the parameters, or pasting long code listings that belong in an appendix.

CHAPTER	WHAT TO WRITE	COMMON MISTAKE
Results and discussion	The baseline against your method on the same data and metrics, ablations, and why the results came out as they did, including what did not work.	Tables and graphs with no discussion, or comparing against a paper's reported numbers on different data.
Conclusion and future scope	Each objective, met or not, with the result that shows it, the limitations, then specific future work.	Repeating the abstract, or bringing in results that are not in the results chapter.

The literature review takes longest to get right. As you read, note each paper's method, dataset, metric and limitation in one table, and write the chapter from that table so the comparison leads to your gap. Our guide on how to write a literature review covers searching, the summary table and citing.

You don't write it all at the end. The Stage-I report already holds drafts of the introduction, literature review, problem statement and method; in Stage-II you revise them to match what you actually built and add the implementation, results and conclusion. If the scope changed, update the objectives too, so the conclusion checks the same list.

Run your university's similarity check on each chapter as you finish it rather than once before submission, and rewrite borrowed wording in the review and method chapters in your own words, with citations. The UGC's 2018 levels above 10% are set out in our PhD thesis format guide. To start, download our free M.Tech thesis Word template from the top of this page: it has the front-matter pages, these seven chapters with numbered headings and guidance, captions and an automatic table of contents. Change its margins, spacing and page numbers to your manual, which overrides it.

What goes in the Stage-I report, and what does Stage-II add?

Most universities assess the dissertation in two stages. The names differ (Stage-I and II, Phase-I and II at VTU, Dissertation-I and II at the University of Mumbai), but the split is the same: first prove the problem and the plan, then deliver the results.

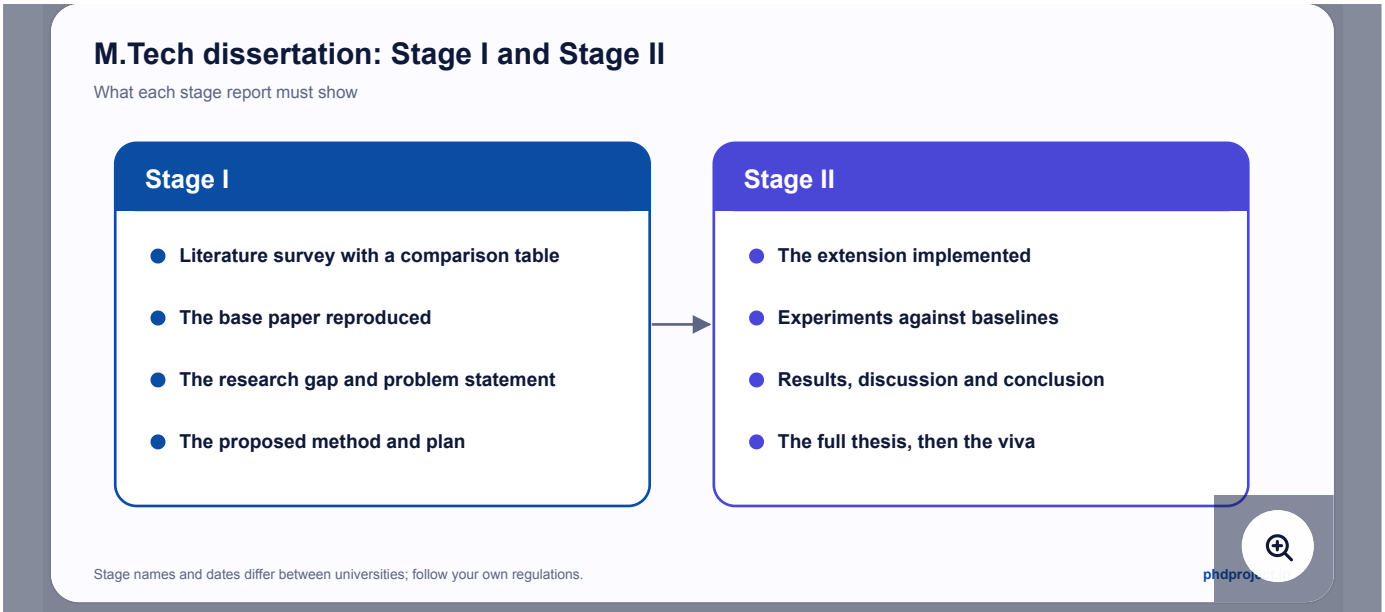
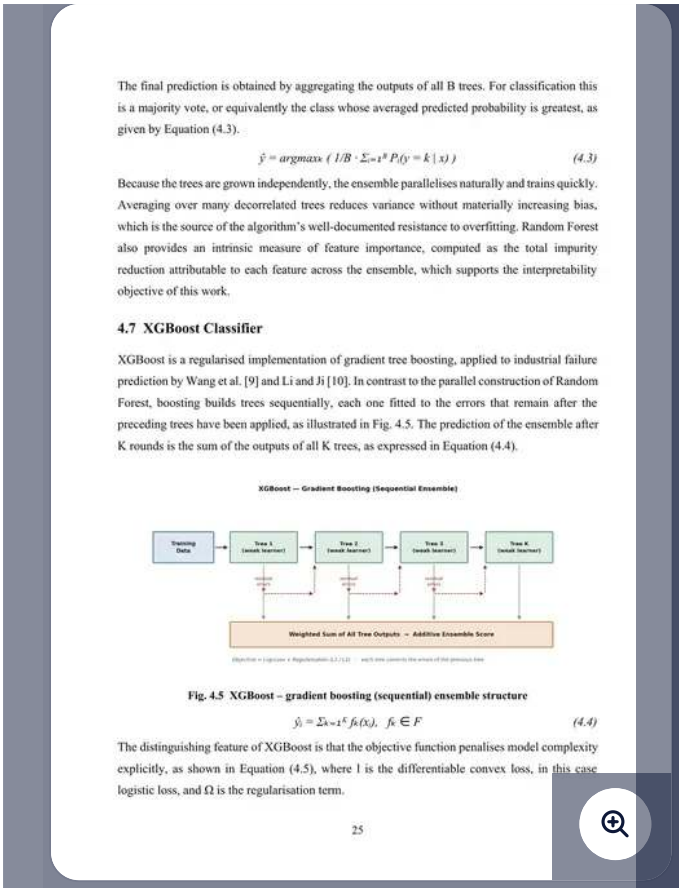


Diagram What the Stage I and Stage II reports each need to show.

Stage-I and Stage-II of an M.Tech dissertation

ASPECT	STAGE-I	STAGE-II
Usual timing	Third semester	Fourth semester
Goal	Fix the problem, the gap and the method before building	Build, test and defend the contribution
Chapters	Introduction, literature review with a gap table, problem statement, objectives and scope, methodology, plan for Stage-II	The Stage-I chapters revised, plus implementation, results and discussion, and conclusion
Results	None or preliminary; the evaluation plan is fixed in advance	Baseline against your method, ablations, discussion of limits
University of Mumbai (M.E.)	Presentation to internal examiners and an external examiner appointed by the department or institute	Internal and external examiners appointed by the University; term work plus an oral
You hand in	Stage-I report and a review PPT	Final thesis, viva PPT and often a paper

Here is a real one. Our delivered M.E. / M.Tech predictive maintenance dissertation compares Random Forest and XGBoost on the public AI4I 2020 dataset. Its Stage-I report has chapters for the introduction, a literature review with a research-gap table, the problem definition, objectives and scope, the methodology and the Stage-II plan, and it reports no scores by design: results belong to Stage-II.



The final prediction is obtained by aggregating the outputs of all B trees. For classification this is a majority vote, or equivalently the class whose averaged predicted probability is greatest, as given by Equation (4.3).

$$\hat{y} = \text{argmax}_k \{ 1/B \cdot \Sigma_{i=1}^{B} P_i(y = k \mid x) \} \quad (4.3)$$

Because the trees are grown independently, the ensemble parallelises naturally and trains quickly. Averaging over many decorrelated trees reduces variance without materially increasing bias, which is the source of the algorithm's well-documented resistance to overfitting. Random Forest also provides an intrinsic measure of feature importance, computed as the total impurity reduction attributable to each feature across the ensemble, which supports the interpretability objective of this work.

4.7 XGBoost Classifier

XGBoost is a regularised implementation of gradient tree boosting, applied to industrial failure prediction by Wang et al. [9] and Li and Ji [10]. In contrast to the parallel construction of Random Forest, boosting builds trees sequentially, each one fitted to the errors that remain after the preceding trees have been applied, as illustrated in Fig. 4.5. The prediction of the ensemble after K rounds is the sum of the outputs of all K trees, as expressed in Equation (4.4).

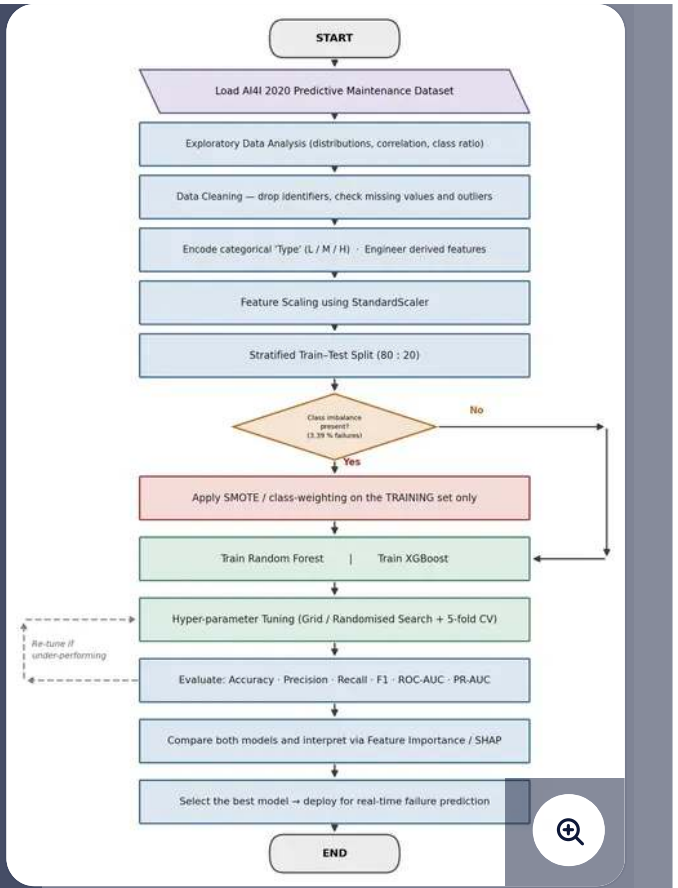
Fig. 4.5 XGBoost – gradient boosting (sequential) ensemble structure

$$\hat{y}_i = \Sigma_{k=1}^{K} f_k(x_i), \quad f_k \in F \quad (4.4)$$

The distinguishing feature of XGBoost is that the objective function penalises model complexity explicitly, as shown in Equation (4.5), where l is the differentiable convex loss, in this case logistic loss, and Ω is the regularisation term.

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Stage-I report Section 4.7, equations (4.3) and (4.4), Fig. 4.5: everything numbered by chapter, captions below figures.



Methodology The Stage-I methodology chapter as one flowchart: every step Stage-II will follow.

Stage-II adds the chapters Stage-I can't have: implementation, results and discussion. For a picture of one, the page below comes from the extended results chapters of a different delivered M.E. dissertation, the **in-browser skin screening project**: training curves with numbered captions, then the held-out test results.

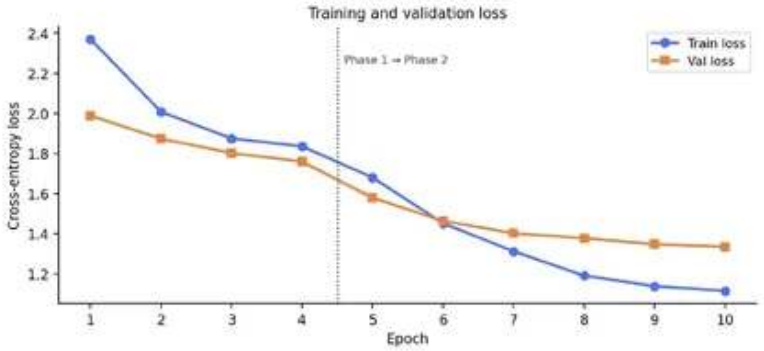


Figure 5.1 — Training and validation cross-entropy loss versus epoch. The dotted line marks the Phase 1 → Phase 2 transition.

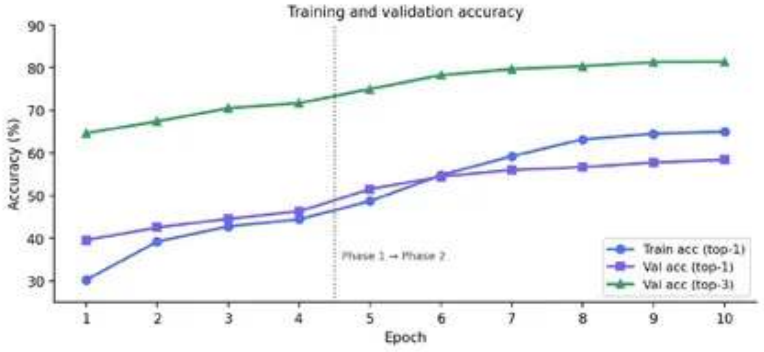


Figure 5.2 — Training and validation accuracy versus epoch. Unfreezing the backbone at epoch 5 produces a marked jump in accuracy.

5.2 Test-Set Performance

The best checkpoint was evaluated on the 1,546-image held-out test set. The model achieved a **top-1 accuracy of 58.9%** and a **top-3 accuracy of 83.3%**, with a test cross-entropy loss of 1.293. Table 5.2 records these figures, and Figure 5.3 compares them with the random baseline. Relative to the 4.5% chance level for 22 classes, the top-1 result is roughly 13× better than random, and the top-3 result shows that in more than four out of five cases the correct condition is among the top three suggestions — a strong outcome for a screening aid that presents ranked possibilities.

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Results chapter A results chapter page from a delivered M.E. dissertation: two captioned figures, then section 5.2 on the held-out test set.

Pages from delivered M.E. / M.Tech dissertations, shown with student, guide and institute details removed.

How do you present each M.Tech review?

Every stage ends with a presentation to the panel, and the slides follow the report. The Stage-I talk shows the problem, the gap in the literature, the base paper and your plan; the Stage-II talk shows the extension, the results against the base paper and what you would do next. Our M.Tech dissertation PPT guide gives a slide-by-slide plan for each review and the viva, with a free PowerPoint template, and the base paper presentation guide covers the first review where you explain the paper you will build on.

Stage review coming up?

Send your university's manual, your draft and the review date. The consultation is free.

Message before 7 pm for a reply today.

Free consultation →

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What formatting rules do university manuals set for an M.Tech thesis?

We read three published manuals behind formats M.Tech students often look up. They agree on A4 pages and a wider left margin, and all allow figures and tables to be numbered by chapter; they differ on nearly everything else.

M.Tech and M.E. thesis rules in three university manuals

RULE	UNIVERSITY OF MUMBAI (2014)	AKTU (2019)	IIT KANPUR (2019)
Margins	Left 30 mm, right 20 mm, bottom 22 mm; top 30 mm without a header	Left 35 mm; top, bottom and right 25 mm	Left 35 mm; top, bottom and right 25 mm
Font and spacing	Times New Roman 12 pt, 1.5 spacing	Times New Roman 12 pt, 1.15 spacing	Double spacing; 11 pt single spacing for long tables, captions and references

RULE	UNIVERSITY OF MUMBAI (2014)	AKTU (2019)	IIT KANPUR (2019)
Page numbers	Centre of the footer; Roman before Chapter 1	Bottom centre, 15 mm from the edge; Roman before Chapter 1	Top right corner, 12 mm from the edge; Roman before Chapter 1
Chapter headings	New page, number and title centred, 18 pt bold, not in capitals	"CHAPTER 1" centred 50 mm from the top, title in capitals	Headings centred 25 mm below the top edge
Abstract	500 words	Up to four pages, single spacing	Up to 300 words for an M.Tech thesis
Figures and tables	Numbered by chapter; table titles above, figure captions below	Numbered by chapter; table titles above, figure captions below	Numbered by chapter or through the thesis; drawn figures as vector graphics
Submission and binding	Final copies hard bound in black with gold lettering, after the viva	Three spiral-bound copies and a PDF on CD for evaluation; two hard-bound light-blue copies after the viva	PDF, after a similarity and formatting check by the Thesis Processing Cell
Length	Not fixed	Generally not more than about 150 pages	Not fixed

Sources: the University of Mumbai's guidelines for thesis, dissertation and report preparation (Ph.D., M.E. and B.E., Academic Council 4 March 2014; copy hosted by SPCE, Mumbai); AKTU's guidelines for preparing the thesis (Ph.D., M.Tech and M.Pharm, March 2019); IIT Kanpur's guidelines for thesis preparation (updated November 2019).

VTU's M.Tech regulations (2022 scheme) don't fix a page layout, but they fix the submission: the whole dissertation as one PDF rather than separate chapters, uploaded to the university's evaluation portal, then evaluated by your guide and one external examiner before the viva. VTU's July 2023 circular for final-semester students asked for a hard copy and a PDF, with the report and the viva each marked out of 100 by both examiners and scaled to 30 marks. For the upload it set a limit of 400 pages and 20 MB, text rather than scanned images, and no header or footer in the report.

Your own manual decides

These are four universities' published rules, not a standard. Autonomous institutes and many departments issue their own format document, and it overrides anything here.

How is an M.Tech thesis different from a B.Tech black book and a PhD thesis?

All three follow the same chapter order. What changes is the contribution you must prove and who examines it.

B.Tech report, M.Tech thesis and PhD thesis compared

ASPECT	B.TECH REPORT OR BLACK BOOK	M.TECH THESIS	PHD THESIS
Written by	A team, often of two to four	One student	One scholar
Must show	A working system and how it was tested	A measured improvement on published work	An original contribution across several studies
Literature	A survey of existing systems	A comparison that ends in a precise gap	A critical review of the whole area
Results	Test cases, a demo, basic metrics	Same-data comparison with a baseline, ablations	One or more chapters per objective
Examined by	Internal and external examiners, with a demo	Guide and an external examiner, then a viva	At least two external examiners, then an open viva

For the PhD version of every rule above, read our PhD thesis format guide. For the B.Tech black book and PPT structure, see dissertation, report and PPT support.

How much similarity is allowed in an M.Tech thesis?

Your university sets the limit, and the published limits differ:

- **VTU:** the 2022 regulations allow a plagiarism index of up to 25%, but the July 2023 circular for M.Tech dissertations set 10% or less, checked on the Drillbit software. Above the limit you resubmit with a penal fee of ₹2,000, then ₹4,000; under the regulations, a third failure means redoing the project a semester later.
- **AKTU:** a plagiarism report with a similarity index below 20%, submitted with the evaluation copies.
- **IIT Kanpur:** the Thesis Processing Cell runs a similarity check and a formatting check before you submit.
- **UGC:** under the 2018 plagiarism regulations, up to 10% in a thesis or dissertation is Level 0, with no penalty. Our PhD thesis format guide sets out the higher levels.

Scores depend on the tool and its settings, so run the check your university uses, cite borrowed text and rewrite flagged passages in your own words. A paper you already published from the same work will match your thesis: cite it and tell your guide.

How do you turn an M.Tech thesis into a research paper?

Many programmes expect one: the University of Mumbai's Rev. 2022 M.E. syllabi for branches such as EXTC say students should publish at least one paper from the dissertation, and AKTU's manual lists your publications inside the thesis.

1. **Keep one contribution.** The paper is chapters 3 to 5 in short form.
2. **Lead with the comparison.** Put the baseline-against-yours table early; it is what reviewers look for. The baseline normally comes from the base paper for your project.
3. **Cut the review.** Keep the papers you compare against and the gap they leave.
4. **Use the venue's template,** such as the IEEE conference template explained in our IEEE paper format guide.

5. **Choose a venue your university accepts,** and check it yourself with our guide to Scopus indexed journals. Acceptance is decided by the journal, never guaranteed.

What should you check before submitting an M.Tech thesis?

M.Tech thesis format checklist

CHECK	DONE WHEN
Current rules	You have this year's thesis manual, your department's format document and the specimen pages.
Order of parts	Preliminary pages, chapters, references and appendices follow your manual's order.
Page setup	Margins, font, size and spacing match the manual on every page, including tables and appendices.
Numbering	Roman numbers before Chapter 1, Arabic after; sections, figures, tables and equations numbered by chapter.
Captions and lists	Every figure and table has a caption, and the lists repeat them with the right page numbers.
Results	Every number in the abstract, conclusion and PPT matches the results chapter.
Citations	One style throughout; every citation is in the list, and every listed source is cited.
Similarity report	Run with your university's tool and under its limit, with the report kept.
Final files	Certificate and declaration signed; one PDF with fonts embedded, plus the printed copies and binding your university asks for.

Is there an M.Tech thesis template you can use?

Use your university's own. The University of Mumbai, AKTU and IIT Kanpur manuals each end with specimen pages for the title page, certificate and declaration; copy those exactly, and use your department's Word or LaTeX template if it has one. If your department has none, start from our free M.Tech thesis template in Word: the

front pages, chapters 1 to 7, captions and references are already styled, and the contents list updates itself. Check every margin, font and page against your manual before you write, because the manual always wins.

Still choosing what the thesis will be about? A thesis is easier to write when the project starts from one paper you can reproduce. Our domain pages give recent IEEE base papers with the extension each one supports: MTech machine learning projects, MTech image processing projects, MTech embedded systems and IoT projects and MTech cyber security projects.

Need help with your M.Tech thesis?

We write and format M.Tech and M.E. dissertations to your manual, from the Stage-I report to the viva PPT: see dissertation writing, reports and PPTs. For the build, see M.Tech projects for CSE and AI or M.Tech projects for ECE; for the paper, research paper writing support.

Follow your university's academic rules

Our work is writing support, formatting and guidance. You sign the declaration of originality, so understand every chapter, cite every source and be ready to defend every result.

Frequently asked questions

Is an M.Tech thesis the same as an M.Tech dissertation?

Yes, in practice: both words name the report of your M.Tech or M.E. project. AKTU and IIT Kanpur call it the thesis; VTU and the University of Mumbai call it the dissertation.

How many pages should an M.Tech thesis be?

Most manuals set no fixed length. AKTU says an M.Tech thesis should not generally exceed about 150 pages, and VTU's July 2023 circular capped the uploaded PDF at 400 pages.

What font and line spacing should an M.Tech thesis use?

Whatever your manual says. The University of Mumbai asks for Times New Roman 12 pt with 1.5 line spacing, AKTU for Times New Roman 12 pt with 1.15 spacing, and IIT Kanpur for double spacing, with 11 pt single spacing for long tables, captions and references.

Is paper publication compulsory in M.Tech?

It depends on the university. The University of Mumbai's Rev. 2022 M.E. syllabi for branches such as EXTC say students should publish at least one paper from the dissertation in a refereed conference or journal, and AKTU's manual has a section for your publications. Check your own syllabus; acceptance is always decided by the journal or conference.

How much plagiarism is allowed in an M.Tech thesis?

Your university sets the limit. VTU's July 2023 circular set a plagiarism index of 10% or less for M.Tech dissertations, AKTU asks for a similarity index below 20%, and under the UGC's 2018 regulations up to 10% in a thesis or dissertation carries no penalty. Run the check your university uses, and cite everything you borrow.

Where can I find an M.Tech thesis sample?

Ask your guide or department library for two or three recently approved theses from your own department; they follow the format your examiners expect. This page also shows redacted pages from delivered M.E. and M.Tech dissertations.

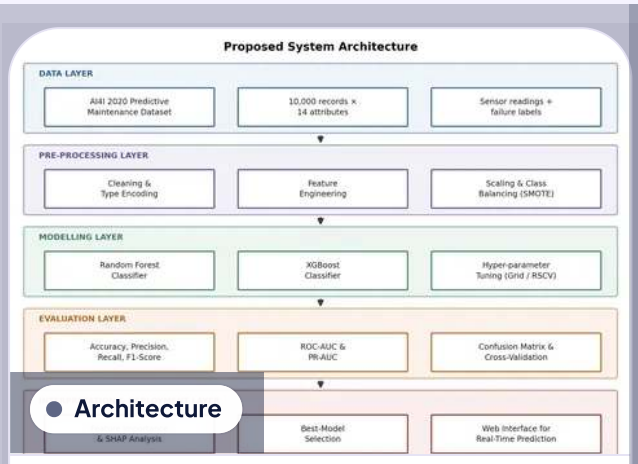
How do I start writing my M.Tech thesis?

Get your university's thesis manual first and set up the page format once. Then start from your results: put the tables and figures in place, write the method and implementation around them, then the literature review and introduction, and the abstract last, once every number is final.

DELIVERED WORK

M.Tech and M.E. dissertations we delivered

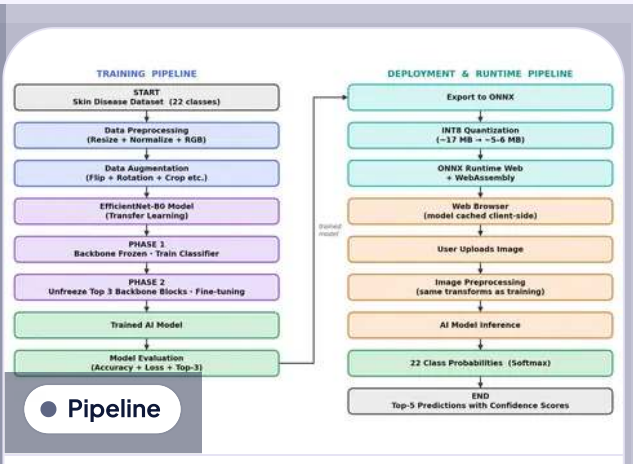
Real reports, figures and results, shown with names and institute details removed.



Architecture

M.E. / M.Tech Machine learning · Manufacturing

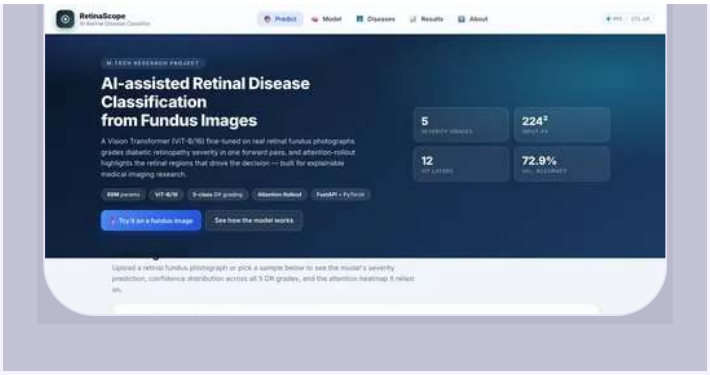
Predictive maintenance: a Stage-I dissertation



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Skin disease detection in the browser



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